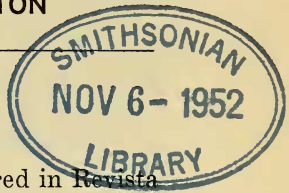


PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

BRASILIAN THYSANOPTERA. III

BY J. DOUGLAS HOOD



The two preceding papers in this series appeared in *Revista de Entomologia* (Rio de Janeiro), vols. 20 (1949) and 21 (1950), and were illustrated with a total of 137 figures. That journal, unfortunately, has had to suspend publication. For the present paper, a similarly exhaustive treatment was planned, a proportionately large number of illustrations were prepared, and the initial descriptions of the new genera and species were fully detailed. But present conditions have forced our journals to publish only brief, non-illustrated contributions unless the author himself defrays the increased costs. Hence, rather than sacrifice the results of much collecting done by myself and others in Brazil—financed in part by Cornell University through grants by the Trustee-Faculty Committee on Research and by a Traveling Fellowship from the College of Agriculture—it has seemed best to solve the problem of publication as I have on similar past occasions: by abbreviating the descriptions and omitting the illustrations. To conform to the title used in parts I and II of this study, the geographic adjective is spelled with an S, although throughout the text the name of the country is given as Brazil, as in current practice.

1. *Erythrothrips brasiliensis* sp. nov.

Male much like that of *costalis*, only, in coloration of wings, but much smaller, with head only 1.1 times as long as wide, third antennal segment ($107\ \mu$) only four times as long as wide, abdominal terga V-VIII without lobe or flange at sides of posterior margin, tergum VIII not deeply emarginate either anteriorly or posteriorly, the median length of this segment about $97\ \mu$, in comparison with a ventral length of $106\ \mu$.

Color of head, thorax, and abdomen dark blackish brown, with abundant red internal pigmentation; legs and antennæ about concolorous with body, excepting the yellow fore tarsi, the yellowish fore tibiæ which are clouded with gray-brown dorsally, the yellow outer apical half of antennal segment II, and the pale yellow basal two-thirds of III; fore wings with posterior half (including anal area), and the area of the ambient vein along distal two-thirds of anterior margin, dark blackish brown. Length about 1.7 mm. (distended, 2.1 mm.); head, total length 0.217, width across eyes 0.197, across cheeks 0.199, width in front of oc-

capitulum 0.178; eyes, dorsal length 0.098; prothorax, median length of pronotum 0.156, width (exclusive of coxæ) 0.245; mesothorax, greatest width, 0.330; metathorax (posteriorly) 0.314; abdomen (at segment IV) 0.280; fore wings, length 0.952. Antennal segments (μ): I 43 (41), II 64 (33), III 107 (28), IV 97 (31), V 70 (27), VI 66 (27), VII 69 (26), VIII 22 (15), IX 15 (8).

BRAZIL: Nova Teutonia, S.C., October 15-20, 1949, Fritz Plaumann, 1 ♂, from *Dalbergia*.

AULACOTHRIPS gen. nov.*

Family Heterothripidae. Head longer than wide, with a pair of strong knobbed setæ in front of, and another behind, posterior ocelli; mouth-cone very short, broadly rounded. Antennæ 9-segmented; segments III and IV greatly elongated and thickened, together fully twice as long as all of the other segments combined, their sensoria in the form of loops (much as in *Euceratothrips*); V-IX collectively forming a short cone at the tip of IV. Prothorax with seven pairs of long, stout, knobbed setæ disposed about as in the Tubulifera; fore tarsi with the usual thumb-like process; scutellum well developed, triangular, heavily reticulate, with overhanging, wing-retaining lateral margins; fore wings in distal three-fourths extremely narrowed and with a strong post-median vein, their basal fourth (exclusive of anal area) nearly four times as wide and with six heavy knobbed setæ comparable with those of head and prothorax, anal area with three. Abdomen with a deep median dorsal furrow in segments II-VIII, this furrow margined with wing-retaining setæ and, in each segment at middle, with a pair of long, approximate, converging setæ; posterior margins of terga I-VIII fringed with a series of strong acute teeth which are replaced by long delicate microtrichia in the dorsal furrow; IX longest, pubescent dorsally; major abdominal setæ, exclusive of the wing-retaining ones (even those on X), knobbed at tip; subbasal line of III-VIII very heavy.

Type species: *Aulacothrips dictyotus* sp. nov.

2. *Aulacothrips dictyotus* sp. nov.

Dark brown, with trochanters and tarsi nearly yellow, fore tibiæ paler apically, segment III of antennæ paler than others and more yellowish; wings blackish brown, fore pair pale in middle of broadened basal fourth. Body stout, thick, heavily sclerotized, polygonally reticulate in metathorax and abdomen. Length 1.9 mm.; head, length 0.190, width across eyes 0.192, least width just behind eyes 0.178, greatest width across cheeks 0.188, least width at base 0.168; ocellar setæ 0.038, interval 0.057; postocellars 0.043, interval 0.036; prothorax, median length of pronotum 0.223, greatest width 0.281; fore wings, length 1.09, greatest subbasal width (exclusive of anal area) 0.092, width at middle 0.025; segment VIII of abdomen, length 0.151, IX 0.171, X 0.113. Antennal segments (μ): I 32 (44), II 42 (36), III 115 (50), IV 137 (49), V 9 (20), VI 10 (15), VII 13 (11), VIII 12 (9), IX 15 (6).

BRAZIL: Nova Teutonia, Santa Catarina, S. P., Jan. 15 and May 25, 1949, Fritz Plaumann, 2 ♀♀, from "Compositæ, No. 41" and *Solanum*, respectively.

**Aulax*, a furrow or groove; *thrips*, a wood-worm—in allusion to the dorsal abdominal furrow for the reception of the wings.

Family UZELOTHRIPIDAE nov.

Superfamily Thripodea. Distinguished by the whip-like antennæ, which are extremely slender beyond segment III, with the terminal segment setiform and about one-half the length of all the others combined; by the depressed sensorium on the ventral surface of the third antennal segment; by the presence of a dorsal cervical sclerite between the head and pronotum; by the slender wings, broadly rounded at tip; by the absence of sclerotization in the sternum of the eighth abdominal segment and in all of the ninth excepting its tip; and by the non-functional, vestigial ovipositor. One genus known.

UZELOTHRIPS gen. nov.*

Body minute, stout, with numerous dorsal tubercles. Head with a pair of large rounded humps between eyes, a deep channel between them, the humps tuberculate and with three pairs of heavy infundibuliform setæ, the anterior pair of setæ largest; eyes subspherical, strongly protruding, with numerous tubercles between the well-separated facets; mouth-cone very heavy, longer than head, broadly rounded at apex, maxillary palpi 3-segmented, labial palpi 2-segmented. Cervix with a transverse median dorsal sclerite articulated with anterior margin of pronotum. Antennæ rising from a short, thin, cup-like prolongation of dorsum of head, 7-segmented, the last four segments extremely slender and forming a flagellum, the terminal segment (in the type species) one-half as long as all of the others combined and fully eighteen times as long as greatest width; segment III (possibly III + IV, morphologically) constricted near middle and with a circular depressed sensorium on ventral surface near tip, IV and V each with a minute thumb-like sense-cone on outer surface; setæ minute, very few in number, most of those on II and III dilated apically, VII with a sharp terminal spine or seta. Prothorax trapezoidal, heavily tuberculate, posterior angles conically projecting and thus prominent, with seven pairs of very broadly dilated setæ arising from prominent tubercles, its posterior margin dentate. Mesothorax, metathorax, and the first eight abdominal segments of apterous form margined posteriorly with a series of strong projecting teeth, in macrop-terous forms these teeth lacking from meso- and metathorax; major abdominal setæ similar to those on prothorax and also arising from strong tubercles. Wings about thirteen times as long as broad, rounded at tip, without discernible venation, two dilated setæ at base. Legs short and stout. Abdomen weakly sclerotized ventrally, especially in segments VIII and IX, the sterna of which are membranous, IX membranous dorsally (except at apex) and protrusile; ovipositor vestigial.

Type species: *Uzelothrips scabrosus* sp. nov.

3. *Uzelothrips scabrosus* sp. nov.

Dark blackish brown (black to naked eye), with red internal pigmentation; legs concolorous with body; antennæ with segment III darker than the others; wings gray. Length about 0.57 mm. (fully distended, 0.064 mm.). Macropterous ♀: head, total length 0.061, median dorsal length 0.049, width across eyes 0.103, least width just behind eyes 0.076, greatest width across cheeks 0.089; eyes, dorsal length 0.038,

*Named in honor of Heinrich Uzel.

width 0.027, interval 0.056; mouth-cone, length beyond dorsal margin of head 0.076; prothorax, median length 0.086, width (inclusive of tubercles) 0.174, setæ about 0.014; cervical sclerite, length 0.005, width 0.060; mesothorax, width 0.182, metathorax 0.206; fore wings, length 0.473, width 0.036; abdomen, greatest width (at segment IV) 0.213. Antennal segments (μ): I 17 (26), II 29 (25), III 48 (21), IV 27 (10), V 36 (7), VI 30 (6), VII 94 (5).

Apterous female not markedly different.

Male very similar to female; length 0.5 mm.

BRAZIL: Belém, Pará, July and August, 1951, J. D. H., many specimens from dead branches of *Hevea* and *Bixa*.

4. *Sericothrips hemileucus* sp. nov.

Readily known from all congeners which have the seventh abdominal segment much darker than the sixth, and the fore wings white at tip and with two white cross-bands, by the uniform white or yellow color of pronotum and of last three abdominal segments.

Color of head, meso- and metanotum, and abdominal segments II-IV and VII, dark brown, head darkest, remainder of body white by reflected light, yellowish by transmitted light; no dark pronotal blotch;* dark abdominal segments with subbasal line nearly black; legs pale yellowish or white, fore coxæ and all femora more or less shaded with brown; fore wings black in first, third, and fifth sixths, approximately, remainder white, but with the second dark band a little broader and the terminal white one narrower; antennæ white in segments I and II, uniform dark gray in VI-VIII, the intermediate segments pale gray, but with pedicel of III basally nearly colorless, and its narrowed portion just beyond, as well as its extreme tip and the pedicels of IV and V, as well as their apical two-fifths and one-half, respectively, shaded with darker. Length about 1.1 mm. (distended, 1.3 mm.); head, total length 0.107, width across eyes 0.152, across cheeks 0.136, at basal apodeme 0.120, head very finely striate excepting in occipital groove, its larger setæ (including about four in dorsal part of eye) stout and nearly black, the postocellars 34 μ ; eyes, dorsal length 0.070; mouth-cone 0.150, slender and dark at tip; pronotum, length 0.126, width 0.179, its cross-striæ pale and delicate, setæ at posterior angles nearly black, 64 μ long and more than 3 μ in diameter, other setæ paler, the pair near middle of posterior margin 29 μ ; mesothorax, width 0.252, metathorax 0.245, abdomen (at segment IV) 0.294; wings 0.81; meso- and metanotum with fine dark close striæ like head. Antennal segments (μ): I 20 (26), II 44 (27), III 64 (17), IV 58 (17), V 50 (17), VI 53 (16), VII 13 (6), VIII 15 (5).

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 8, 1948, J.D.H., 2 ♀♀ (including holotype), from dead branches.—Nova Teutonia, S.C., Jan. 8, 1949, Fritz Plaumann, 1 ♀, from *Solanum*.

5. *Leucothrips pictus* sp. nov.

Unique in (1) antennæ 8-segmented; (2) sense-cones unusually long, the outer arm of that on segment IV 52 μ and attaining middle of VI, that on VI 60 μ and attaining tip of antenna; and (3) color pale yellow,

*Mr. J. C. Crawford (Proc. Ent. Soc. Wash., 46:200, 1944) contends that the "pronotal blotch of authors" is the protergum. It is not.

with pterothorax orange, head with frontal red blotch as in *theobromæ*, red pigment also in first antennal segment, along sides of head, prothorax, and first eight abdominal segments, and also in each of the two veins of fore wing for a short distance just beyond middle (remainder of fore wings colorless excepting for gray tips; femora slightly darkened apically and tibiæ subbasally; antennæ very pale grayish, segments II and III nearly colorless basally, II with orange pigment at apex, III pale gray in apical two-thirds, IV darkened in apical two-fifths, V in apical third, V in apical half).

Length about 0.78 mm. (distended, 0.87 mm.); head, length 0.074, width across eyes 0.136, across cheeks just behind eyes 0.120, at base 0.105; eyes, dorsal length 0.053; prothorax, median length 0.070, width (exclusive of coxæ) 0.149; pronotum with fine, pale, transverse lines of sculpture, setæ colorless and slender, the pair at posterior angles 27 μ , the mediad of four additional pairs on posterior margin longest and 24 μ ; mesothorax, greatest width 0.185, metathorax 0.181; mesonotum sculptured like pronotum, metanotum similarly but longitudinally striate; fore wings 0.578, fringe not wavy, anterior vein with 6 setæ, the distal one straighter, longer, stouter, and dark; abdomen, greatest width 0.204, segment VIII with complete comb, all setæ pale yellowish, dorsal pair on VIII and IX 43 μ and arising from posterior margins, IX with two pairs of stouter lateral ones (27-28 μ), the upper of these curved at tip, X with dorsal pair straight and fine, the outer stout and curved at tip, both 33 μ . Antennal segments (μ): I 16 (20), II 27 (25), III 30 (16), IV 33 (15-16), V 28 (13), VI 24 (10), VII 21 (6), VIII 13 (3).

BRAZIL: Nova Teutonia, S.C., Nov. 17-18, 1949, Fritz Plaumann, 1 ♀, from unidentified plant.

6. *Pseudodendrothrips alboniger* sp. nov.

Unlike congeners in color: head, thorax, and abdominal segments IV-X dark gray brown (black to naked eye), the three basal abdominal segments (and usually the anterior part of fourth) white, segments IV-VI with an obscure pale spot near sides, the sides of metathorax and of the dark abdominal segments underlain with red pigmentation; fore wings very dark gray in basal fifth, white to middle, dark again to the white apical seventh; second antennal segment white, others light gray, III darkest, IV nearly colorless briefly beyond pedicel; fore and middle coxæ and femora concolorous with body, fore tibiæ paler than middle ones, both pairs nearly colorless at either end; hind legs (including coxæ) pale yellow or white, their femora and tibiæ with a narrow dark ring near base; all tarsi pale.

Length about 0.74 mm. (distended, 0.88 mm.); head, length 0.077, width across eyes 0.140, across cheeks just behind eyes 0.123, at base 0.113; eyes, dorsal length 0.051; prothorax, median length 0.071, width (exclusive of coxæ) 0.152; pronotum with close black lines of sculpture, with dark granulations between the striæ, setæ brown, conspicuous, the pair at posterior angles 33 μ , the median of three additional pairs on posterior margin largest and 31 μ , the inner of two pairs across anterior portion of disc 43 μ ; mesothorax, greatest width 0.197, metathorax 0.195; mesonotum sculptured like pronotum, metanotum similarly but longitudinally striate; fore wings 0.553, fringe not wavy, anterior vein

with about 9 setæ, those in white areas white, others black, the distal one much the longest; abdomen, greatest width 0.220, segment VIII with complete comb, setæ on pale segments colorless, those on other segments dark, dorsal pair on VIII and IX 43-46 μ and arising from posterior margins, IX with two pairs of stout lateral ones, each 31 μ , the upper of these curved at tip, X with dorsal pair 35 μ , straight and fine, the outer pair 41 μ , stout, curved at tip; microtrichia on dark segments black and very conspicuous. Antennal segments (μ): I 15 (22), II 30 (25), III 33 (16), IV 29 (16), V 26 (14), VI 29 (10), VII 7 (6), VIII 15 (4), IX 12 (3).

Male identical with female in color and general structure.

BRAZIL: Nova Teutonia, S.C., Nov., 1949, 17 ♀♀, 6 ♂♂, from *Terminalia* and unidentified plants.

7. *Pseudodendrothrips fulvus* sp. nov.

Like *fuscus*, only, in that abdomen is largely yellow and with bases of terga II-VIII transversely banded with darker; differs conspicuously as follows: tergal bands confined to subbasal lines and the areas anterior to them; antennæ with segment I pale, II-IX dark gray-brown, with pedicels of III-V, only, pale; transverse sculpture of II conspicuous, strongly raised, giving a serrated appearance to sides of segment; sutures between VI-VIII transverse; head finely longitudinally striate in front of ocelli; nine setæ near or on vein of fore wings, all stout, black, and conspicuous, the apical one short (15 μ); two strong spurs at tips of hind tibiæ.

Color reddish orange; pronotum with an obscure gray blotch on either side; abdomen with subbasal lines on terga IV-VIII nearly black (pale medially on IV and V), extreme bases of these segments and of II and III gray; legs yellow, with orange pigmentation in femora; fore tibiæ with an obscure ring around middle and also at apex; fore wings gray, darkest basally and in anal area, veins orange. Length about 1.2 mm. (distended, 1.32 mm.); head, length 0.091, width across eyes 0.174, across cheeks behind eyes 0.158, at base 0.129; eyes, dorsal length 0.075; prothorax, median length 0.095, width (exclusive of coxæ) 0.178; pronotum with close light gray lines of sculpture and with extremely delicate longitudinal lines between the striæ, setæ at posterior angles (19 μ) darkest, nearly black, stout, straight, thorn-like, the outer of two additional pairs on posterior margin also dark but curved and slenderer, the inner pair (11 μ) pale, the inner of two pale pairs across anterior portion of disc 19 μ ; mesothorax, greatest width 0.241, metathorax 0.245; mesonotum sculptured like pronotum, metanotum similarly but indistinctly longitudinally striate basally; fore wings 0.798, fringe not wavy; abdomen, greatest width 0.308, segment VIII with complete comb, dorsal pair of setæ on VIII and IX 57 μ and arising from posterior margins, IX with two pairs of stout, thorn-like lateral setæ (36-37 μ , diameter 3 + μ), both straight and nearly black, thickest at middle, X with dorsal and lateral pairs stout, dark, straight, 25 and 30 μ , respectively; microtrichia pale gray. Antennal segments (μ): 19 (24), II 35 (28, exclusive of sculpture), III 34 (20), IV 32 (20), V 32 (18), VI 29 (16-17), VII 11 (9), VIII 12 (7), IX 12 (4).

BRAZIL: Nova Teutonia, S.C., October 15-20, 1949, Fritz Plaumann, 1 ♀, from *Dalbergia*.

8. *Chirothrips nigriceps* sp. nov.

Distinctively colored (yellow, with black head), and known from other pale species by non-pubescent abdomen, four pairs of setæ in front of eyes, interocellars slightly in advance of median ocellus, and cephalic production 9μ between eyes and antennæ.

Antennal segment I enlarged, II asymmetrical, IV with large sense-cone simple; head in front of eyes much more than twice as wide as long; fore tibiæ normal; mesonotum with two pairs of setæ.

Length 1.4 mm.; head, length 0.116, width across eyes 0.110, greatest width across cheeks 0.106, least width near base 0.103, prothorax, length 0.180, width 0.266, width across fore margin 0.129. Antennal segments (μ): I 28 (42), II 28 (34), III 30 (24), IV 29 (25), V 26 (20), VI 34 (19), VII 10 (6), VIII 12 (4).

BRAZIL: Nova Teutonia, Santa Catarina, Oct. 15-20 and Nov. 20, 1949, 2 ♀ ♀, one (holotype) from *Dalbergia*.

9. *Podothrips paraensis* sp. nov.

Like type of genus, only, in having legs completely yellow, but with head exceptionally broad and with 5-6 accessory hairs on fore wings.

Color light yellowish brown, tube darkest and yellow at base; legs deep golden yellow, the femora almost indistinguishably darkened with brown externally; antennæ about concolorous with body excepting segment I which is paler and more yellowish, II which is golden yellow, and extreme bases of III-VI which are yellowish; fore wings almost clear, faintly yellowish at base. Length about 1.8 mm. (distended, 2.1 mm.); head, total length 0.216, width across eyes 0.203, across cheeks 0.221, near base 0.172; eyes, dorsal length 0.067; postocular setæ 0.060, interval 0.208, distance from eyes 0.025; prothorax, median length 0.209, width across coxæ 0.364; antero-marginal setæ minute, antero-angular 0.031, midlateral 0.039, epimeral 0.073, postero-marginal 0.071, coxal 0.071; mesothorax, width across anterior angles 0.323; metathorax, greatest width 0.323, abdomen (at segment V) 0.314; fore wings 0.77; tube, length 0.117, subbasal width 0.062, apical width 0.037, terminal setæ 0.382; segment IX, seta I 0.101, II 0.090, III 0.122. Antennal segments (μ): I 40 (53), II 53 (33), III 54 (34), IV 50 (33), V 49 (30), VI 46 (27), VII 47 (23), VIII 36 (13).

BRAZIL: Belém, Pará, August 4, 1951, J. D. H., 1 ♀, from dead branches of *Hevea*.

10. *Trichinothrips callipechys* sp. nov.

Differing from Oriental species in that head is longer than wide; from Neotropical species in that the third antennal segment is somewhat longer than the fourth, the legs are differently colored, and the head is broadest near middle of cheeks, with the latter rounded to eyes and to base.

Color dark brown; antennal segment II paler apically, III basally, remainder of antenna gray-brown; mid and hind tibiæ nearly as dark at middle as femora, almost white basally, the femora pale at tip; antennal

segment I broad (42 μ) at base and short (28 μ), inner margins forming an angle greater than 90°, outer margins parallel; sense-cones of normal length and disposition; head little produced between eyes and antennæ; segments VIII and IX of abdomen with one pair of small dorsal setæ in the region of the two dorsal pores. Length 1.8 mm. (distended, 2 mm.); head, total length 0.202, width across eyes 0.167, greatest width across cheeks 0.174, least width near base 0.154, length in front of eyes 0.027, width in front of eyes 0.080, lateral length between eyes and antennæ 0.003; eyes, dorsal length 0.080; postocular setæ 0.076, interval 0.135, distance from eyes 0.014; minor cephalic setæ about 0.037; prothorax, median length 0.133, width across coxæ 0.294, antero-marginal setæ 0.073, antero-angular 0.067, midlateral 0.082, epimeral 0.094, postero-marginal 0.071, coxal 0.060; mesothorax, width across anterior angles 0.290; metathorax, greatest width 0.312, abdomen (at segment IV) 0.375; fore wings, length 0.623; tube, length 0.093, subbasal width 0.071, apical width 0.034, terminal setæ 0.132; segment IX, seta I 0.101, II 0.104, III 0.108. Antennal segments (μ): I 28 (42), II 54 (29), III 50 (27), IV 48 (27), V 45 (25), VI 40 (24), VII + VIII 59 (21).

BRAZIL: Santarém, Pará, July 12, 1951, J. D. H., 1 ♀ (holotype), from dead branches.—Jacarepaguá, D. F., May 27, 1948, J.D.H. and Dr. Thomaz Borgmeier, 1 ♀, from miscellaneous low vegetation.

11. *Trichinothrips sensilis* sp. nov.

Unique in having all tibiæ yellow and only very obscurely shaded with brown; in the long sense-cones, the outer on III 110 μ , outer two on IV 117 μ , outer on V 100 μ ; and in having 4-5 pairs of small dorsal setæ on abdominal segments VIII and IX in the immediate area of the two dorsal pores.

Color dark brown; antennal segment II paler apically, III basally, remainder of antennæ gray-brown. Length about 1.7mm. (distended, 2.17 mm.); head, total length 0.239, width across eyes 0.199, greatest width across cheeks immediately behind eyes 0.199, least width near base 0.164, cheeks straight, length in front of eyes 0.034, width in front of eyes 0.088, lateral length between eyes and antennæ 0.010; eyes, dorsal length 0.104; postocular setæ 0.062, interval 0.154, distance from eyes 0.011; minor cephalic setæ about 0.022; mouth-cone, length beyond posterior dorsal margin of head 0.083; prothorax, median length 0.138, width across coxæ 0.294, antero-marginal setæ 0.052, antero-angular 0.062, midlateral 0.057, epimeral 0.067, postero-marginal 0.061, coxal 0.056; mesothorax, width across anterior angles 0.288; metathorax, greatest width 0.308, abdomen (at segment IV) 0.319; fore wings 0.792; tube, length 0.104, subbasal width 0.067, apical width 0.033, terminal setæ 0.068; segment IX, seta I 0.104, II 0.162, III 0.106. Antennal segments (μ): I 35 (44), II 60 (32), III 63 (33), IV 72 (33), V 66 (32), VI 55 (28), VII + VIII 61 (22).

BRAZIL: Jacarepaguá, D. F., May 9 (holotype) and May 19, 1948, J. D. H. and Thomaz Borgmeier, 2 ♀ ♀, from dead branches.

12. *Hoplothrips spissicornis* sp. nov.

Small, yellow, with head 1.2 times as long as wide and fully 1.7 times the length of tube, eyes protruding; antennæ very stout, formed almost

precisely as in *pergandei*, terminal segment lanceolate and pedicellate, major sense-cones as in that species; fore tarsal tooth nearly as long as width of tarsus; wings with about six accessory hairs; antero-marginal setæ minute (about 10 μ) and pointed, the postocular and other prothoracic setæ, the subbasal wing setæ, and seta I on abdominal terga I and VIII, dilated and divided at tip, other abdominal setæ pointed; all setæ yellow.

Color dull yellow, obscurely clouded with pale gray, head somewhat darker; legs concolorous with body; fore wings yellowish, lightly shaded with gray, darkest at tip; tube bright pale yellow across base and in apical half, remainder orange-yellow; antennæ about concolorous with head, but paler in segments I-III. Length about 1.8 mm. (distended, 2.2 mm.); head, total length 0.217, width across eyes 0.172, just behind eyes 0.166, across cheeks 0.181, in front of basal collar 0.153, across collar 0.155; eyes 0.067; postocular setæ 0.074, interval 0.148, distance from eyes 0.025; mouth-cone 0.110; prothorax 0.140, width across coxæ 0.314, antero-marginal setæ 0.010, antero-angular 0.044, midlateral 0.037, epimeral 0.062, postero-marginal 0.054, coxal 0.060; mesothorax, width across anterior angles 0.293, abdomen (at segment II) 0.281; fore wings 0.76; tube 0.130, width near base 0.083, at apex 0.037, terminal setæ 0.073; segment IX, seta I 0.174, II 0.151, III 0.130. Antennal segments (μ): I 36 (41), II 54 (34), III 50 (39), IV 43 (39), V 40 (36), VI 40 (33), VII 43 (29), VIII 43 (21).

Brachypterous female with smaller eyes and heavier prothorax.

Male (brachypterous) with reduced eyes, heavy prothorax, and with the postocular and some of the prothoracic setæ often longer and pointed.

BRAZIL: Belém, Pará, July 23 and August 5, 1951 (holotype and allotype on latter date), J.D.H., 33 ♀ ♀ and 6 ♂ ♂, from dead branches of *Hevea*.

BLEPHARIDOTHRIPS gen. nov.*

Allied to *Hoplothrips*, but with a transverse row of four subequal postocular setæ; head long, deeply notched behind the protruding and nearly spherical eyes; third antennal segment shorter than fourth, fifth, and sixth, those beyond III clothed with numerous fine setæ (much as in some species of *Polyphemottrips*), VIII with a short pedicel, sense-cones on III-VI (in macropterous individuals, only) nearly or quite as long as the succeeding segment; mouth-cone broadly rounded at tip; pronotum with posterior margin straight; fore tarsi toothed in both sexes; wings not narrowed at middle, with accessory hairs. Type of genus: *Blepharidothrips sphaerops* sp. nov.

13. *Blepharidothrips sphaerops* sp. nov.

Color chestnut-brown, with red internal pigmentation, tube bright yellow in about apical two-thirds, bright orange basally, tipped with gray; legs somewhat paler than body, with trochanters, tarsi, and both ends of tibiae yellow; fore wings dark brown, darkest in anal area, with a darker median streak extending to near middle, and with a pale streak paralleling each margin, in apical half or more, just within bases of

**Blepharon*, eyelash; *thrips*, a wood-worm—in allusion to the increased number of postocular setæ.

fringing hairs; antennæ about concolorous with head in segments I and II, darker and more blackish in IV-VIII, apex of II and basal third of III yellow, remainder of III brown; setæ on head, body, and wings brownish yellow. Length about 2.6 mm. (distended, 3.4 mm.); head, total length 0.337, across eyes 0.245, just behind eyes 0.221, across cheeks 0.237, in front of basal collar 0.183, across collar 0.186, width in front of eyes 0.132, its dorsal surface finely reticulate throughout; postocular setæ 65-104 μ , slightly dilated at tip; mouth-cone 0.156; prothorax, median length 0.178, across coxæ 0.423, pronotum striate anteriorly, posteriorly, and laterally, with dark median apodeme, antero-marginal setæ minute (10 μ) and pointed, others with dilated pale tips, antero-angular 0.055, midlateral 0.095, epimeral 0.109, postero-marginal 0.101, coxal 0.086, coxæ with four shorter pointed pairs behind these last; mesothorax, across anterior angles 0.441, metathorax 0.437, abdomen (at segment III or IV) 0.520; fore wings 1.37; tube 0.253, across basal collar 0.106, at tip 0.057, its sides very slightly concave at about basal fourth, very slightly narrowed at tip, terminal setæ 0.247; segment IX, seta I 0.135, II 0.156, III 0.211. Antennal segments (μ): I 73 (57), II 70 (41), III 113 (53), IV 144 (52), V 147 (47), VI 133 (43), VII 112 (37), VIII 87 (27); major sense-cones III 1-2, IV 2-2, V 1-1, VI 1-1, VII 1 dorsal.

Brachypterous female not essentially different in color or structure, save for the very much shorter sense-cones (about 50 μ long).

Male (brachypterous) somewhat paler and more yellowish than female, excepting in segments II-IV of abdomen; prothorax and fore legs enlarged, tarsal tooth straight and longer than width of tarsus.

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 29, 1948, Lauro Travossos Filho and Ernesto Rabello, 4 ♀♀ (1, the holotype, macropterous) and 2 ♂♂, from dry branches.

14. *Malacothrips fasciatus* sp. nov.

The Brazilian equivalent of *M. zonatus* Hinds,* but with much longer head.

Color yellow, with head and abdominal segments II, VI, and VIII-X abruptly blackish brown, X darker basally. Head about 1.5 times as long as wide; antennæ slender; sense-cones on III 1 (2), IV 1 (2).

♀ (macropterous): Length 2.2 mm.; head, length 0.280, width across eyes 0.182, width just behind eyes 0.157, width across cheeks 0.183, width near base 0.169, width in front of eyes 0.099; postocular setæ, length 0.090, interval 0.129; prothorax, median length 0.158, width across coxæ 0.358; antero-marginal setæ 0.057, antero-angulals 0.060, midlaterals 0.065, epimerals and postero-marginals about 0.091, coxals 0.055; tube, length 0.169, greatest width 0.087, apical width 0.045; setæ on segment IX of abdomen, I 0.218, II 0.203, III 0.191. Antennal segments (μ): I 49 (52), II 60 (36), III 79 (35), IV 75 (34), V 73 (30), VI 65 (26), VII 57 (24), VIII 50 (17).

Male very similar to female; fore tarsi with a small tooth near base.

BRAZIL: Nova Teutonia, Santa Catarina, May 15 and 24, 1949, Fritz Plaumann, 9 ♀♀ (3 of them macropterous), 2 ♂♂ (brachypterous), from grasses.

*Synonym: *Eurythrips flavacinctus* (sic) Moulton and Andre; new synonymy.

15. *Malacothrips mediator* sp. nov.

The Brazilian equivalent of *M. roycei*, but with more slender antennæ and with the apical abdominal segments, rather than the basal ones, pale.

Color blackish brown, with head, abdominal segments V-IX, and basal half of tube, nearly yellow; fore legs yellow; middle and hind legs brown, with tarsi, both ends of tibiæ, and tips of femora, yellow. Head fully 1.2 times as long as wide; antennæ stout; sense-cones on III 1 (1), IV 1 (2).

♀ (brachypterous): Length 1.8 mm.; head, length 0.211, width across eyes 0.158, width just behind eyes 0.150, width across cheeks 0.171, width near base 0.164, width in front of eyes 0.094; postocular setæ, length 0.064, interval 0.134; prothorax, median length 0.154, width across coxæ 0.347; antero-marginal setæ 0.043, antero-angulars 0.054, midlaterals 0.049, epimerals 0.065, postero-marginals 0.072, coxals 0.060; tube, length 0.147, greatest width 0.082, apical width 0.041; setæ on segment IX of abdomen, I 0.104, II 0.112, III 0.110. Antennal segments (μ): I 45 (45), II 53 (36), III 64 (35), IV 59 (35), V 63 (32), VI 51 (27), VII 52 (25), VIII 34 (13).

Male unknown.

BRAZIL: Nova Teutonia, Santa Catarina, May 24, 1949, Fritz Plau-mann, 2 ♀♀, from grasses.

16. *Orthothrips leptura* sp. nov.

Readily known by the long, slender, dark tube, the minute postocular and pronotal setæ, and the presence of one sense-cone, only, on either surface of antennal segments III and IV.

Color golden yellow, excepting for the brown thorax and tube; legs yellow; antennæ yellow in segments I, III, IV, and pedicels of V and VI, II brown, IV lightly infusate apically, V shaded with brown beyond pedicel, apical portion of VI and all of VII and VIII dark blackish brown. Length 2.0 mm.; head, total length 0.271, width across eyes 0.172, least width at posterior margin of eyes 0.147, greatest width across cheeks 0.169, least width near base 0.155, length in front of eyes 0.043, width in front of eyes 0.106; eyes, dorsal length 0.075, width 0.049, interval 0.074; postocular setæ, length 0.007, interval 0.121, distance from eyes 0.020; mouth-cone, length beyond posterior dorsal margin of head 0.073; prothorax, median length 0.134, width across coxæ 0.300, epimeral setæ 0.030, all others about 0.010; mesothorax, width across anterior angles 0.329; metathorax, greatest width 0.332, abdomen (at segment III) 0.347; fore wings, length 0.882; tube, length 0.316, subbasal width 0.063, apical width 0.029, terminal setæ 0.097; segment IX, seta I 0.033, II, 0.087, III 0.073. Antennal segments (μ): I 52 (45), II 60 (35), III 71 (33), IV 69 (31), V 69 (30), VI 63 (26), VII 44 (23), VIII 31 (13).

Male like female in color and general structure.

BRAZIL: Belém, Pará, August 9, 1951, J. D. H., 1 ♀, 3 ♂♂, from dead leaves of *Astrocaryum mumbaca*.

17. *Hoplandothrips fusciflavus* sp. nov.

Readily known from other pale species of genus by the relatively broad head (about 1.2 times as long as wide), nearly yellow middle

and hind femora (only lightly shaded with brown), nearly smooth pronotum, reticulated mesonotum (often nearly smooth anterior to median pair of setæ), broadly dilated major setæ, and long terminal setæ.

Color brownish yellow, with head, prothorax, sides of prothorax, and last three abdominal segments brown, head and tube darkest, the latter paler in apical half and across base, tergum II and sides of abdomen more or less shaded, terga II-IV narrowly darkened across extreme base and with anterior angles darkest, III-VII with a dark transverse dash bordering subbasal line behind; internal pigmentation (in most of the dark areas) red; coxæ brown, trochanters nearly colorless, fore femora dark brown in about basal half, shading to pale yellow apically, remainder of legs pale yellow, but with middle and hind femora shaded lightly except at ends; fore wings pale yellow-gray, darkest in second fourth, anal area pale; antennæ brown, but paler than head in segments I, II and IV-VIII, segment III yellow, I paler basally, II paler except at base and narrowly along sides, III sometimes perceptibly clouded apically IV and V (sometimes VI) yellow to first whorl of setæ; post-ocular and prothoracic setæ light yellowish brown, terminal ones darker, others yellow. Length about 1.8 mm. (distended, 2.4 mm.); head, total length 0.252, across eyes 0.185, across cheeks (opposite posterior dorsal margin of eyes) 0.206, in front of basal collar 0.161, across collar 0.165, length in front of eyes 0.024, width 0.080, with distinct delicate reticulation except in median area posterior to ocelli; eyes 0.095, not protruding posteriorly; postocular setæ 0.078, interval 0.154, distance from eyes 0.018, their tips broadly expanded, minor cephalic setæ short, those on cheeks brownish yellow and arising from distinct tubercles; prothorax 0.140, across coxæ 0.339, surface with a few transverse lines of sculpture along posterior margin, antero-marginal setæ 0.051, antero-angular 0.065, midlateral 0.049, epimeral 0.077, postero-marginal 0.073, coxal 0.045, their tips broadly expanded and about 13 μ across; mesothorax across anterior angles 0.322, metathorax 0.318, abdomen (at segment IV) 0.367; fore wings 0.83, with about 11 accessory hairs; tube 0.130, across basal collar 0.067, at apex 0.034, terminal setæ 0.224; segment IX, seta I (slightly dilated) 0.104, II (nearly pointed) 0.118, III (pointed) 0.171. Antennal segments (μ): I 40 (38), II 53 (31), III (sinuate on inner surface) 73 (37), IV 72 (34), V 63 (27), VI 56 (24), VII 48 (22), VIII (very slightly narrowed and then broadened at extreme base) 33 (12); sense-cones as in allies.

Male bright yellow, with scattered red internal pigmentation, head and abdominal segments IX and X abruptly dark brown, IX yellow basally, X yellowish basally and paler apically, III-VIII with dark median dash, mesothorax with margins narrowly shaded, legs wholly yellow, antennæ as in female; fore legs modified in the usual manner.

BRAZIL: Ilha da Gipoia, R.J., May 25, 1948 (including holotype and allotype), 9 ♀♀, 8 ♂♂.—Jacarepaguá, D.F., May 9-June 23, 1948, J.D.H. and Thomas Borgmeier, 49 ♀♀, 27 ♂♂.—São Carlos, S.P., June 13, 1948, J.D.H., 2 ♂♂. Common on dead branches.

18. *Hoplandrothrips albipes*, sp. nov.

Allied to *uzeli*, but with inner surface of third antennal segment straight, head scarcely 1.2 times as long as wide, length of tube only

slightly more than 0.5 that of head and less than twice its greatest width, this less than twice the apical width.

Color dark blackish brown, usually with a varying number of basal abdominal segments paler, tube paler in apical half and across base, internal pigmentation red; all femora dark blackish brown, tipped with very pale yellow (almost white), all tibiae, tarsi, and trochanters nearly white; fore wings pale yellowish, with a very faint cloud in about second fourth, anal area pale gray and darkest; antennae with segment I blackish brown but paler basally, II brown but yellowish apically, III yellow but very faintly clouded apically, IV-VI yellow to first whorl of setae, their remainders and VII-VIII gray-brown, IV often yellowish in narrowed apical portion; postocular, prothoracic, and terminal setae dark brown, others pale yellowish. Length about 2.2 mm. (distended, 2.9 mm.); head, total length 0.281, across eyes 0.221, across cheeks (opposite posterior dorsal margin of eyes) 0.242, in front of basal collar 0.200, across collar 0.202, length in front of eyes 0.026, width 0.099, sculpture unusually faint and confined to extreme sides, base, and sides of ocellar area; eyes 0.105, not protruding posteriorly; postocular setae 0.096, interval 0.179, distance from eyes 0.018, broadly expanded at tip, minor cephalic setae short, those on cheeks dark brown, conspicuous, arising from small tubercles, the posterior pair largest (about 25 μ); prothorax 0.181, across coxae 0.424, unusually smooth, with a few very faint lines of sculpture along posterior margin, only; antero-marginal setae 0.061, antero-angular 0.086, midlateral 0.098, epimeral 0.081, postero-marginal 0.091, coxal 0.066, their tips broadly expanded; mesothorax across anterior angles 0.407, metathorax 0.381, abdomen (at segment III) 0.571; metanotum sculptured at tip and along sides of elevated area; fore wings 1.0, with about 10 accessory hairs; tube 0.149, across basal collar 0.082, at tip 0.045, terminal setae 0.294; segment IX, seta I (dilated) 0.119, II (dull) 0.133, III (pointed) 0.164. Antennal segments (μ): I 40 (45), II 59 (34), III 81 (43), IV 87 (40), V 74 (32), VI 65 (24), VII 57 (23), VIII (very slightly narrowed and then a trifle broadened at extreme base) 40 (13); sense-cones as in allies.

Male essentially like female in color and structure; antero-angular setae elongated (100 μ) in large individuals; fore legs modified in the usual manner.

BRAZIL: Jacarepaguá, R.J., May 9-June 27, 1948 (holotype and allotype June 1), J.D.H. and Thomas Borgmeier, 26 ♀♀, 22 ♂♂, from dead branches and leaves.

19. *Hoplandrothrips variegatus* sp. nov.

Very small, slender, yellow, with brown markings and red internal pigmentation; head long; postocular and prothoracic setae short and broadly expanded (7-10 μ) at tip; pronotum unusual in that its strong and dark transverse sculpture consists of an anterior and a posterior median patch; metanotum sculptured in entire elevated portion, the lines dark and forming longitudinal polygons whose front and hind margins are often incomplete.

Color bright yellow, ornamented with numerous dark gray-brown areas, nearly all of which are underlain with the red pigmentation, the dark dorsal areas disposed as follows: ocellar region and front of head,

cheeks just behind and at sides of eyes, sometimes basal collar of head, at least the sides of prothorax, sides and front of mesothorax, posterior half of mesonotum, anterior portion of metanotal plate, sides of abdominal segments and distal portion of ninth; tube dark brown, yellowish across base and paler in apical half; femora dark brown, tipped with yellow, trochanters, tibiae, and tarsi also yellow; fore wings gray, with tip, middle and basal fourth (excepting anal area) pale; antennae gray-brown in segments I and IV-VIII, II yellowish medially and apically, III yellow but shaded with gray beyond first whorl of setae, IV yellowish to just beyond pedicel; terminal setae gray, others yellow. Length about 1.55 mm. (distended, 1.8 mm.); head, total length 0.238, width across eyes 0.153, across cheeks 0.172, in front of basal collar 0.142, across collar 0.146, length in front of eyes 0.022, width 0.068, with distinct delicate reticulation except in median area posterior to ocelli, the reticles large and more distinct in posterior half of head; eyes 0.073, width 0.053, interval 0.047, not protruding posteriorly; postocular setae 0.048, interval 0.108, distance from eyes 0.022; minor cephalic setae short, pale, arising from insignificant tubercles; prothorax 0.140, across coxae 0.266, epimeral seta 0.044, coxal 0.027, antero-marginal and others 0.030-0.041; mesothorax across anterior angles 0.260, meta-thorax 0.265, abdomen (at segment II) 0.267; fore wings 0.73, with about 5 accessory hairs; tube 0.120, across basal collar 0.060, at apex 0.032, terminal setae 0.133; segment IX, seta I (slightly dilated at tip) 0.082, II and III (pointed) 0.094 and 0.113, respectively. Antennal segments (μ): I 34 (34), II 49 (27), III 63 (32), IV 57 (32), V 49 (27), VI 47 (23), VII 40 (22), VIII (with short and slightly flared pedicel) 33 (14); sense-cones as in allies.

Male (macropterous) much like female but with prothorax and abdominal segments III-VIII not darkened laterally, all femora nearly yellow, pronotum without sculpture except posteriorly; fore legs modified in the usual manner.

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 6, 7, and 8, 1948 (holotype and allotype June 8), 18 ♀♀, 9 ♂♂.—Jacarepaguá, D.F., May 9, 1948, J.D.H. and Thomas Borgmeier, 1 ♀. All specimens came from dead branches.

20. *Hoplandrothrips ommatus* sp. nov.

Allied to *affinis*, but with head about 1.8 times the width across eyes, segment III of antennae scarcely 1.5 times as long as wide, tergum II of abdomen with one knobbed seta at each posterior angle, and III with two.

Color dark blackish brown, with red internal pigmentation, tube paler across base and in about apical two-thirds; tibiae much paler than femora, yellowish, shaded with brown, their apices and all tarsi yellow; fore wings nearly colorless, anal area shaded with brown; antennae with segments I and II blackish brown and darkest, III with pedicel pale yellow, its remainder gray-brown and heavily shaded with black along inner surface, IV-VI paler and with at least pedicels dull yellow, their apical portions and all of VII and VIII gray-brown; terminal setae brown, all others pale, becoming yellow on the apical segments of abdomen. Length about 1.7 mm. (distended, 2.1 mm.); head, total length

0.256, width across eyes 0.145, at posterior angles of eyes 0.137, across cheeks (at middle) 0.164, near base 0.152, length (and width) in front of eyes 0.029 (0.080), dorsal surface sculptured at sides, basally, and at eyes; eyes 0.080, protruding posteriorly; postocular setæ 0.068, interval 0.125, distance from eyes 0.021, dilated and divided at tip; minor cephalic setæ small, about four pairs arising from small tubercles on profile of cheeks; prothorax 0.147, across coxæ 0.274, almost without sculpture; antero-marginal setæ about 0.016 and pointed, others dilated like postoculars, antero-angular 0.037, midlateral 0.040, epimeral and postero-marginal about 0.055, coxal 0.043; mesothorax across anterior angles 0.302, metathorax 0.276, abdomen (at segment IV) 0.323; elevated portion of metanotum faintly sculptured with pale longitudinal striæ along sides and at tip; fore wings 0.714, with about six accessory hairs; tube 0.135, across basal collar 0.074, at tip 0.039, sides straight, terminal setæ 0.177; segment IX, all setae pointed, I 0.146, II 0.167, III 0.153. Antennal segments (μ): I 36 (37), II 53 (31), III 58 (40), IV 61 (37), V 56 (30), VI 48 (24), VII 47 (23), VIII (slightly narrowed basally) 34 (13); sense-cones as in allies.

Male (macropterous) essentially like female in color and structure; fore legs modified in the usual manner.

BRAZIL: Jacarepaguá, D.F., May 15-19, 1948 (holotype and allotype May 18), J.D.H., 6 ♀ ♀, 3 ♂ ♂, from grasses and a sedge.

21. *Neurothrips frontalis* sp. nov.

Allied to *allopterus* through lack of dorsal furrow and flattened wing-retaining setæ in abdominal tergum VIII, but with fore femora and tarsi not toothed, fore wings without accessory hairs, tube three times as long as wide, head with front and lateral margins narrowly white, first antennal segment white, its outer surface blackish brown.

Coloration typical, pale as in *williamsi*. Length 2.5 mm. (distended, 2.9 mm.); head, total length 0.337, width across eyes 0.234, across cheeks (exclusive of tubercles) 0.287, near base 0.232, across basal collar 0.234; eyes, dorsal length 0.168; postocular setæ 0.021, interval 0.061, distance from eyes 0.017; prothorax, median length 0.213, width across coxæ (exclusive of tubercles) 0.458, antero-marginal setæ 0.021, antero-angular 0.033, midlateral 0.028, epimeral 0.041, coxal 0.040, postero-marginal 0.022; mesothorax, width across anterior angles 0.456; metathorax, greatest width 0.458, abdomen (at segment III) 0.469; fore wings 1.18; tube, length 0.224, subbasal width 0.075, apical width 0.053, terminal setæ 0.770; segment IX, seta I 0.053, II 0.047, III 0.120. Antennal segments (μ): I 51 (46), II 64 (37), III 121 (39), IV 102 (37), V 90 (34), VI 59 (29), VII 54 (25), VIII 34 (14).

Male not essentially different from female.

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 5, 1948, J.D.H., 1 ♀, 4 ♂ ♂, from dead branches.

22. *Arcyothrips brasiliensis* sp. nov.

Much like type of genus, but with head 1.3 times as long as wide, roundly produced between eyes and overhanging frontal costa and first antennal segment, the antennal segments longer and much more slender,

IV-VI not globose beyond pedicels, III with a sense-cone on outer surface.

Color blackish brown; membrane between head and prothorax, and a small median spot at front of mesonotum and one at rear of metanotum, chalky white; internal pigmentation red; legs nearly concolorous with body, tarsi and both ends of tibiæ yellowish; antennæ with segments II and III brownish yellow, their remainder blackish brown; sculpture almost as in type of genus, but with reticulation of pronotum less polygonal. Length about 1.5 mm. (distended, 1.8 mm.); head, total length 0.234, across eyes 0.159, across cheeks 0.181, in front of basal collar 0.165, across basal collar 0.168; eyes 0.057, width 0.044, interval 0.071; postocular setæ 0.016, interval 0.115, distance from eyes 0.012; mouth-cone 0.153; prothorax 0.143, across coxæ 0.322, epimeral setæ 0.033, midlateral and coxal 0.018, others 0.021-0.023, all dilated at tip; mesothorax across anterior angles 0.302, metathorax 0.311, abdomen (at segment III) 0.316; fore wings 0.71; tube 0.163, subbasal width 0.062, at tip 0.029, terminal setæ 0.170; segment IX, seta I 0.050, II 0.127, III 0.096. Antennal segments (μ): I 33 (24), II 56 (30), III 46 (27), IV 49 (30), V 44 (29), VI 43 (24), VII 67 (21).

Brachypterous female with head 1.4 times as long as wide.

BRAZIL: São Carlos, S.P., June 13, 1948, J.D.H., 2 brachypterous ♀♀, from dead branches.—Nova Teutonia, S.C., Dec., 1951, Fritz Plaumann, 32 macropterous ♀♀ (including holotype), from dead branches.

23. *Diceratothrips cornutus* sp. nov.

Like *robustus*, only, in having frontal setæ attaining or surpassing tip of antennal segment II, but with tube short, stout, and with straight sides, and abdominal setæ very long; male with enlarged setæ on inner surface of fore femora not grouped at base and not triangular, fore tibiæ with three or four prominent setigerous tubercles on inner surface.

Color nearly black, with articulations of legs somewhat paler, second antennal segment brown but darkened on inner surface and yellow at tip, third with extreme base of pedicel yellow. Length about 3.9 mm. (distended, 4.7 mm.); head, total length 0.521, width across eyes 0.321, just behind eyes 0.314, across cheeks at anterior third 0.326, in front of basal collar 0.295, across basal collar 0.307; postocular setæ 0.222, interval 0.154; frontal setæ about 0.154 (arising from prominent tubercles), interval 0.112, diameter 0.013; postocellar setæ stout, blunt, attaining front margin of eyes; prothorax, median length 0.251, width across coxæ 0.714; epimeral setæ 0.196, midlaterals about 0.008, all others 0.057-0.065; mesothorax, width across anterior angles 0.672; fore wings 1.7; abdomen, greatest width (at segment IV) 0.717; tube, length 0.472, width near base 0.202, at apex 0.069, terminal setæ 0.266; segment IX, seta I 0.588, II 0.630, III 0.561. Antennal segments (μ): I (exposed length) 67 (63), II 104 (50), III 241 (53), IV 185 (50), V 137 (46), VI 104 (43), VII 95 (36), VIII 44 (21)—the lengths exclusive of ventral prolongations.

Male like female in color; longest fore tibial tubercle about 27 μ ;

head 477 μ , tube 406, width at base 168, at tip 64, sides straight, tip very slightly constricted; setæ on IX about 567 μ .

BRAZIL: Belém, Pará, July 30 (holotype) and July 25 (allotype), 1951, J.D.H., 1 ♀ from tall grass in open field, 1 ♂ from dead cashew branch.

24. *Adelothrips palmarum* sp. nov.

Apparently a true member of the genus,* but unique in that the last two antennal segments are not at all united, and seta II on segment IX of abdomen is knobbed.

Color reddish brown or reddish yellow, due in part to abundant bright red internal pigmentation, the integument itself brownish yellow, the head shaded with darker along sides, abdomen often darkened in segment VII and VIII; tube pale yellow in apical fourth and across base, orange between, sometimes tipped with gray; femora brownish yellow, tibiae and tarsi yellow, darker (older) individuals with all tibiae darkened except at ends; antennæ brownish gray, more yellowish in the first two segments, the third pale yellow basally; fore wings yellowish gray, somewhat paler at subbasal setæ and again shortly beyond middle; all major setæ yellow, those on head and prothorax more brownish. Length about 1.9 mm. (distended, 2.3 mm.); head, total length 0.263, width at posterior profile of eyes 0.175, across eyes 0.178, across the nearly parallel cheeks (at about anterior third) 0.200, in front of weak basal collar 0.190, across collar 0.192, faintly sculptured basally, laterally, and in ocellar area; eyes 0.087; postocular setæ 0.081, dilated and divided at tip, 0.130 apart and 0.012 from eyes; mouth-cone 0.137, broadly rounded at tip; prothorax 0.167, across coxæ 0.378, faintly sculptured posteriorly, its setæ like postoculars, antero-marginal 0.048, antero-angular 0.072, midlateral 0.065, epimeral 0.071, postero-marginal 0.065, coxal 0.052; mesothorax across anterior angles 0.351, metathorax 0.336, abdomen (at segment IV) 0.388; median tergite of segment I with two pores; fore wings 0.805, with about 7 accessory hairs; tube 0.133, across basal collar 0.083, at apex 0.044, its sides thickened and slightly concave between the two pairs of pores; terminal setæ 0.231; segment IX, seta I (dilated) 0.093, II (dilated) 0.093, III (pointed) 0.171. Antennal segments (μ): I 42 (44), II 56 (33), III 66 (36), IV 69 (33), V 63 (30), VI 54 (25), VII 48 (22), VIII (very slightly narrowed basally) 40 (14).

Male (macropterous) essentially like female in color and structure, but with fore legs enlarged and tarsal tooth stronger.

BRAZIL: Belém, Pará, August 9-19, 1951 (holotype and allotype on latter date), J.D.H., 18 ♀♀, 14 ♂♂, from *Euterpe* and *Astrocaryum*.

25. *Adelothrips graminicola* sp. nov.

Allied closely to type of genus, but with tube 0.7 the length of head, somewhat constricted at tip, and markedly thickened, and with pedicel of segment VII of antennæ flared outward at base.

Color yellow, with red internal pigmentation in head, thorax, and along

*To this genus belong also the following: (1) *Adelothrips junctus* (Hood), comb. nov.; synonym, *Holothrips quercus* Moulton and Andre, new synonymy. (2) *Adelothrips bratleyi* (Watson), comb. nov.; synonym, *Hoplothrips flavus* Moulton and Andre, new synonymy.

sides of abdomen; head and thorax not shaded, abdomen lightly so in about segments VII-IX, the tube orange, paler across base and just before its gray tip; legs clear yellow; fore wings pale yellowish, gray in basal part of anal area, without cloud at middle; antennæ yellow in first three segments and to near middle of IV, III lightly shaded at apex, remainder of antenna brown except basal two-fifths of V, which is mostly yellow, VII+VIII darkest, pedicel of VII nearly black; terminal setæ dark gray, all others yellow. Length 2.5 mm. (distended, 3.1 mm.); head, total length 0.336, across eyes 0.210, at posterior angles of eyes 0.207, across cheeks at about anterior third 0.224, in front of basal collar 0.199, across collar 0.206, length in front of eyes 0.043, width 0.118, cheeks evenly rounded, dorsal surface with faint reticulation posterior to postocular setæ except medially; eyes 0.074; postocular setæ (dilated) 0.106, interval 0.178, distance from eyes 0.046; minor cephalic setæ short, slender, pale, very inconspicuous; prothorax 0.193, across coxæ 0.413, smooth excepting for a few faint striæ along posterior margin, setæ dilated at tip, antero-marginal 0.050, antero-angular 0.062, midlateral 0.085, epimeral 0.110, postero-marginal 0.095, coxal 0.106; mesothorax across anterior angles 0.374, metathorax 0.360, abdomen (at segment IV) 0.447; fore wings 0.95, with 4-6 accessory hairs; tube 0.238, across base 0.103, at apex 0.046; terminal setae 0.266; segment IX with setæ pointed, I 0.277, II 0.266, III 0.217. Antennal segments (μ): I 63 (56), II 76 (41), III 93 (42), IV 93 (42), V 86 (37), VI 77 (35), VII+VIII 97 (31), the suture between the last two represented only by a short ventral dash.

Male (brachypterous) like female in color and essential structure; fore legs enlarged, tarsal tooth stronger.

BRAZIL: Jacarepaguá, D.F., May 15-June 21, 1948 (holotype June 1, allotype May 15), J.D.H. and Thomaz Borgmeier, 3 ♀♀ and 7 ♂♂, from *Andropogon* and other grasses.

26. *Adelothrips formosus* sp. nov.

Resembling only *umbricola* in pale color, absence of pores from median tergite of first abdominal segment, and knobbed seta I on abdominal segment IX, but with head only 1.4 times as long as greatest width, cheeks convex, minor setæ on head short and inconspicuous, tube thick-walled and constricted at tip.

Color bright golden yellow, with bright red internal pigmentation, head shaded with gray between eyes, mesothorax and sides of second abdominal segment likewise darkened; tube brownish orange, tipped with gray, narrowly paler across base and just before darkened tip; legs yellow, middle and hind femora (especially the latter) shaded with gray; fore wings pale yellowish gray, darkest in anal area, with a distinct gray cloud near middle; antennæ bright yellow in first four segments and usually in basal half of V and pedicel of VI, remainder brown or blackish brown; terminal setæ yellowish gray, all others yellow. Length about 2.6 mm. (distended, 3.3 mm.); head, total length 0.370, across eyes 0.262, just behind eyes 0.270, in front of basal collar 0.218, across collar 0.227, length in front of eyes 0.037, width 0.128, cheeks rounded, dorsal surface with faint reticulation posterior to postocular setæ except medially; eyes 0.096; postocular setae 0.105, interval 0.209,

distance from eyes 0.033; longest genal setæ 0.020, dorso-cephalic setæ 0.035; prothorax 0.218, across coxæ 0.463, smooth excepting for a few faint striæ near posterior margin, setæ dilated at tip, the two anterior pairs 0.068-0.070, midlateral 0.097, epimeral 0.108, postero-marginal 0.089, coxal 0.072; mesothorax across anterior angles 0.403, abdomen (at segment V) 0.452; fore wings 1.06, with about 8 accessory hairs; tube 0.251, across base 0.107, at tip 0.048; terminal setæ 0.294; segment IX, seta I (knobbed) 0.155, II (pointed) 0.224, III (pointed) 0.207. Antennal segments (μ): I 61 (55), II 80 (39), III 103 (40), IV 97 (40), V 82 (36), VI 75 (33), VII 58 (28), VIII 37 (19) and conical, firmly joined to VII but with suture complete.

Male (brachypterous or macropterous) like female in color and essential structure; fore legs enlarged, tarsal tooth stronger.

BRAZIL: Jacarepaguá, D.F., May 12-June 22, 1948 (holotype and allotype June 20), J.D.H. and Thomaz Borgmeier, 13 ♀♀, 5 ♂♂.—Angra dos Reis, R.J., May 24, 1948, J.D.H., 2 ♀♀, 1 ♂.—Ilha da Gipoia, R.J., May 25, 1948, J.D.H., 5 ♀♀, 1 ♂. Common on dead branches.

27. *Adelothrips umbricola* sp. nov.

Resembling only *formosus* in pale color, absence of pores from median tergite of first abdominal segment, and knobbed seta I on ninth abdominal segment, but differing importantly in the longer head, nearly straight cheeks, longer genal setæ, longer setæ on dorsum of head, and the thin-walled tube not constricted at tip.

Color yellow, with red internal pigmentation, head shaded across front and at sides opposite eyes, mesothorax and some of the abdominal segments beyond I lightly shaded; tube yellow, tipped with gray, pale in apical half, golden basally; legs yellow, femora often shaded; fore wings pale yellowish gray, darkest in anal area, clouded at middle; antennæ yellowish brown, about concolorous with head, darkest in last four or five segments, I shaded with gray, II and III nearly yellow; terminal setæ yellow-gray, others yellow. Length about 1.9 mm. (distended, 2.5 mm.); head, total length 0.336, across eyes 0.217, at posterior angles of eyes 0.216, across cheeks just behind eyes 0.224, in front of basal collar 0.192, across collar 0.200, the cheeks nearly straight though slightly concave about opposite postocular setæ and again near base, dorsal surface virtually without sculpture; eyes 0.077, width 0.067, interval 0.083; postocular setæ 0.090, dilated at tip, 0.151 apart, 0.025 from eyes; minor cephalic setæ long and slender, those on cheeks 0.030, dorso-cephalic 0.058, postocellars surpassing front margin of ocelli; prothorax 0.153, across coxæ 0.346, smooth excepting for a few faint striæ near posterior margin, setæ dilated and divided at tip, the three anterior pairs 0.061-0.068, epimeral 0.098, postero-marginal 0.092, coxal 0.048; mesothorax across anterior angles 0.335, abdomen (at segment IV) 0.374; fore wings 0.96, with 5-9 accessory hairs; tube 0.188, across base 0.079, at the slightly narrowed but not constricted tip 0.040, its sides not thickened; terminal setæ 0.224; segment IX, seta I (knobbed) 0.113, II and III (pointed) 0.168. Antennal segments (μ): I 53 (46), II 73 (36), III 90 (40), IV 90 (42), V 76 (37), VI 70 (34), VII 54 (29), VIII 39 (21) and conical, firmly joined to VII but with suture complete.

Male (brachypterous) like female in color and essential structure, but more yellowish; fore legs enlarged, tarsal tooth stronger.

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 5, 1948, 2 ♀♀ and 1 ♂ (including holotype and allotype), from dead branches in dense wet jungle.—Petrópolis, R.J., May 11 and 12, 1948, J.D.H., 1 ♀ and 4 ♂♂, from dead branches in shade.

28. *Holothrips procerus* sp. nov.

Very different from type of genus in that the wing-retaining setæ on abdominal terga II-V are arcuate, instead of sigmoid, and the first two antennal segments are about concolorous with head, rather than with the third segment; head 1.7 times as long as greatest width; tube slightly longer than head, constricted apically, its sides not ridged or roughened; postocular setæ very short, straight; frontal costa flat.

Color of head, thorax, abdomen, and tube blackish brown; fore tarsi yellowish; antennal segments I and II concolorous with head, II pale subapically, III yellowish brown, palest and more yellow basally, lightly shaded to beyond middle, remainder of antennæ dark brown, IV and V blackish basally. Length 4.9 mm. (distended, 6.0 mm.); head, total length 0.589, width across eyes 0.339, just behind eyes 0.332, across cheeks at middle 0.349, near base 0.322, across basal collar 0.343; eyes, dorsal length 0.151; postocular setæ 0.051, interval 0.238, distance from eyes 0.104; mouth-cone 0.288; prothorax, median length 0.360, width across coxæ 0.795, antero-marginal setæ 0.054, antero-angular 0.051, midlateral 0.080, epimeral 0.107, postero-marginal 0.169, coxal 0.098; mesothorax, width across anterior angles 0.783; metathorax, greatest width 0.841, abdomen (at segment III) 0.850; fore wings 2.2, with 40-50 accessory hairs; tube, length 0.595, basal width (across collar) 0.207, at apex 0.083, terminal setæ 0.409; segment IX, seta I 0.483, II 0.430, III 0.396. Antennal segments (μ): I 117 (99), II 130 (62), III 225 (71), IV 209 (70), V 181 (58), VI 151 (51), VII+VIII 168 (43).

Male not markedly different from female in color and structure.

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 6 (allotype) and 9, 1948, J.D.H., 4 ♀♀ and 1 ♂; and October 10, 1948 (holotype), Lauro Travassos Filho, 1 ♀ and 1 ♂; all from dead branches.

29. *Holothrips amplus* sp. nov.

Very different from type of genus in that the wing-retaining setæ on abdominal terga II-V are arcuate, rather than sigmoid, and the first two antennal segments are about concolorous with head, rather than with the third segment; head less than 1.5 times as long as greatest width; tube longer than head, constricted apically, its sides not ridged or roughened; postocular setæ shorter than eyes; frontal costa concave.

Color of head, thorax, abdomen, and tube blackish brown; antennal segments I and II concolorous with head, II pale subapically, III yellowish brown, palest and more yellow basally, lightly shaded to middle, remainder of antennæ dark brown, IV and V blackish basally, IV with a large pale area at middle and beyond. Length 4.5 mm. (distended, 5.6 mm.); head, total length 0.553, width across eyes 0.374, just behind eyes 0.365, across cheeks at middle 0.379, near base 0.344, across basal collar 0.371; eyes, dorsal length 0.143, width 0.097, interval

0.181, ventral length 0.129, width 0.090, interval 0.195; postocular setæ 0.127, interval 0.260, distance from eyes 0.076; mouth-cone 0.309; prothorax, median length 0.351, width across coxæ 0.829, antero-marginal setæ 0.058, antero-angular 0.069, midlateral 0.138, epimeral 0.167, postero-marginal 0.214, coxal 0.113; mesothorax, width across anterior angles 0.801; metathorax, greatest width 0.872, abdomen (at segment III) 0.899; fore wings 2.11, with 40-50 accessory hairs; tube, length 0.599, basal width (across collar) 0.196, at apex 0.077; terminal setæ 0.354; segment IX, seta I 0.459, II 0.383, III 0.355. Antennal segments (μ): I 117 (92), II 134 (64), III 193 (70), IV 172 (69), V 160 (61), VI 133 (51), VII 103 (41), VIII 55 (31).

BRAZIL: Nova Teutonia, Santa Catarina, December 31, 1948, Fritz Plaumann, 3 ♀♀, from dry branches.

30. *Holothrips aspericauda* sp. nov.

Very different from type of genus in that the wing-retaining setæ on abdominal terga II-V are arcuate, instead of sigmoid, and the first two antennal segments are about concolorous with head, rather than with the third segment; unique in that the tube has several thin ridges or flanges at sides, bearing minute setigerous asperæ.

Color blackish brown, tube orange-brown at sides, fore tarsi brownish yellow; antennæ about concolorous with body, with apex of segment II and basal half of III yellow. Length about 3.2 mm. (distended, 3.9 mm.); head, total length 0.448, width across eyes 0.290, just behind eyes 0.280, across cheeks (at distal third) 0.293, near base 0.262, across basal collar 0.276; eyes, dorsal length 0.121, width 0.082, interval 0.126, ventral length 0.110, width 0.070, interval 0.150; postocular setæ 0.180, interval 0.217, distance from eyes 0.056; mouth-cone 0.216; prothorax, median length 0.265, width across coxæ 0.574, antero-marginal setæ 0.025, antero-angular 0.052, midlateral 0.053, epimeral 0.160, postero-marginal 0.110 coxal 0.079; mesothorax, width across anterior angles 0.571; metathorax, greatest width 0.601, abdomen (at segment IV) 0.667; fore wings 1.6, with 27-30 accessory hairs; tube, length 0.421, basal width 0.157, apical width 0.062, terminal setæ 0.336; segment IX, seta I 0.406, II 0.386, III 0.345. Antennal segments (μ): I 91 (71), II 116 (48), III 160 (54), IV 153 (53), V 130 (48), VI 113 (44), VII+VIII 117 (37).

BRAZIL: Boracéa, Munic. de Salesópolis, S.P., June 5, 7, and 8 (holotype), 1948, J.D.H., 5 ♀♀, from dead branches.

31. *Diplacothrips piceus* sp. nov.

Like type of genus, with frontal costa deeply grooved, frontal setæ large, fore margin of pronotum thickened, etc., but smaller, with antennæ black, and midlateral setæ small.

Color of body, legs, and antennæ piceous-black, the last obscurely yellowish in apex of segment II and extreme base of III; fore wings (when present) with about 34 accessory hairs. Length about 3.6 mm. (distended, 4.6 mm.); head, total length 0.518, width across eyes 0.311, just behind eyes 0.311, at about anterior third of cheeks 0.301, near base 0.305, in front of basal collar 0.276, across basal collar 0.288,

median length in front of eyes 0.021, width in front of eyes 0.183, depth of frontal costa 0.021; eyes, dorsal length 0.118, width 0.089, interval 0.154, ventral length 0.095; interval between posterior ocelli 0.118; postocular setæ 0.340, interval 0.167, distance from eyes 0.030; frontal setæ 0.210, interval 0.114; pronotum, median length 0.174, width across coxæ 0.624; antero-marginal and antero-angular setæ 0.010-0.019, midlateral 0.026, epimerals 0.280, postero-marginals 0.136, coxals 0.050; mesothorax, width across anterior angles 0.602; abdomen, greatest width (at segment III) 0.729; fore wings 1.8, greatest subbasal width 0.174, at basal fourth 0.158, near apex 0.200; tube, length 0.420, subbasal width 0.249, apical width 0.062, terminal setæ 0.203; segment IX, seta I 0.605, II 0.658, III 0.616. Antennal segments (μ): I 107 (69), II 108 (51), III 192 (50), IV 171 (50), V 154 (46), VI 120 (40), VII 86 (35), VIII 75 (26).

Male very similar to female.

BRAZIL: Belém, Pará, July 23 (holotype and allotype) and 26, 1951, J.D.H., 2 ♀ ♀ (one macropterous), 1 ♂, from dead branches.

32. *Gastrothrips firmus* sp. nov.

Large, heavy, with two sense-cones on third antennal segment and four on fourth, head decidedly broadest across eyes and 1.5 times as long as wide, third antennal segment (126-133 μ) about three times as long as wide; fore tarsi with a stout tooth; tube narrowed, but scarcely constricted, at tip; setæ pointed, brown with paler tips, excepting the terminal ones (which are nearly black) and the lowermost series on abdomen, as well as those on IX, these all being more yellowish.

Color nearly black throughout, knees and fore tarsi somewhat yellowish; antennæ largely black, segment II brown in apical three-fifths excepting along inner surface, III bright yellow in about basal ninth and with a yellowish area on outer surface near apex, nearly black at apex and along inner surface, remainder dark brown shaded with dark gray; fore wings pale brown, darker apically, narrowly darkened marginally and in a median streak before middle, anal area darkest, about 20 accessory hairs. Length about 2.8 mm. (distended, 3.3 mm.); head, total length 0.395, across eyes 0.262, just behind eyes 0.246, across cheeks 0.253, near base 0.224, across basal collar 0.231, length beyond eyes 0.032, width 0.130; eyes, length 0.100, width 0.073, interval 0.117; postocular setæ 0.133, interval 0.148, distance from eyes 0.018; mouth-cone 0.134; prothorax 0.154, across coxæ 0.490, epimeral seta 0.102, postero-marginal 0.029, coxal 0.033, others 0.015-0.018; mesothorax, width across anterior angles 0.483, metathorax 0.476, abdomen (at segment V) 0.571; fore wings 1.23, with 18-21 accessory hairs; tube 0.342, across base 0.144, at apex 0.056, terminal setæ 0.283; segment IX, seta I 0.407, II 0.434, III 0.323. Antennal segments (μ): I 59 (54), II 86 (44), III 133 (40), IV 123 (43), V 107 (41), VI 87 (37), VII 59 (30), VIII 43 (17).

Male like female in color and general structure.

BRAZIL: Itanhaen, S.P., June 17, 1948, J.D.H. and John Lane, 3 ♀ ♀, 2 ♂ ♂, from dead branches.

33. *Gastrothrips* fumipennis* sp. nov.

Very close to *abditus*** but with head about 1.2 times as long as greatest width, its lateral length in front of eyes about 14μ (instead of 7μ), setæ on cheeks pale and indistinct, front margin of eyes not protruding, fore wings brown and darkest basally, with a postmedian dark streak in basal half and without accessory hairs, fore femora of male without a group of hooked setæ on outer surface at base.

Color dark blackish brown, tube slightly paler basally; fore tarsi and apices of all femora yellow, fore tibiæ paler than the others and, like them, paler at either end; antennæ blackish brown or black in segments I and IV-VIII, segment II yellowish apically, III pale yellow in pedicel, its remainder blackish brown or with apical half (excepting sides) somewhat paler. Length 2.0 mm. (distended, 2.5 mm.); head, total length 0.252, width across eyes 0.209, just behind eyes 0.204, across cheeks 0.210, in front of basal collar 0.179, across basal collar 0.182, length in front of eyes 0.036, width 0.107, distance between eyes along front margin of head 0.123; eyes 0.086; postocular setæ 0.083, interval 0.157, distance from eyes 0.017; mouth-cone 0.095; prothorax 0.133, across coxæ 0.339, antero-marginal setæ 0.010, epimeral 0.098, postero-marginal 0.086-0.102, others (including coxal) 0.038-0.040; mesothorax across anterior angles 0.347, metathorax 0.350, abdomen (at segment V) 0.420; fore wings 0.95; tube 0.224, subbasal width 0.098, at apex 0.043, terminal setæ 0.137; segment IX, seta I 0.199, II 0.221, III 0.232. Antennal segments (μ): I 43 (44), II 66 (37), III 72 (33), IV 58 (34), V 66 (34), VI 63 (32), VII 46 (26), VIII 38 (13).

Male with lateral mesothoracic process (as in *abditus*) in heterogonic major forms.

BRAZIL: Nova Teutonia, S.C., May 16 (holotype and allotype) and Feb., 1949, Fritz Plaumann, 2 ♀♀ and 6 ♂♂, from dry branches.

34. *Symphothrips caliginosus* sp. nov.

Known from type of genus (possibly its only congener) by dark blackish brown color, absence of accessory wing hairs, and much longer tube.

Color blackish brown, somewhat paler medially in basal abdominal segments, and with a pair of very obscure darker blotches near bases of abdominal terga III-VIII; tube brownish orange, darkened apically; legs concolorous with body; antennæ concolorous with head in segments I and II, yellow in III; IV-VII + VIII successively darker and less yellowish, IV shading gradually from yellow to brown, V and VI yellow in pedicel only; fore wings nearly colorless, yellowish basally; setæ of head, thorax, and basal abdominal segments nearly colorless, broadly knobbed, those on apical segments yellow, only the two lower pairs on IX and the terminal ones pointed. Length 2.1 mm. (distended, 2.6 mm); head, total length 0.252, width across eyes 0.195, across cheeks 0.217, near base 0.192, across basal collar 0.195; eyes, dorsal length 0.064, width 0.050, interval 0.096, ventral length 0.069, width 0.038, interval 0.119; postocular setæ 0.083, interval 0.143, distance from eyes 0.010;

*Synonym: *Probolothrips* Moulton; new synonymy.

**Synonyms: *Probolothrips hambletoni* Moulton and *Hoplothrips brasiliensis* Moulton; new synonymy. (Both species were described from material taken (1) in Minas Geras, Brazil, (2) by Edson J. Hambleton, (3) in 1933, (4) on dead twigs of Mandioca.)

prothorax, median length 0.181, width across coxæ 0.382, antero-marginal setæ 0.044, antero-angular 0.062, midlateral 0.067, epimeral 0.077, postero-marginal 0.067, coxal 0.048; mesothorax, width across anterior angles 0.364, metathorax, greatest width 0.378, abdomen (at segment V) 0.435; tube, length 0.259, basal width 0.118, apical 0.042, terminal setæ 0.175; segment IX, seta I (knobbed) 0.168, II (pointed) 0.234, III (pointed) 0.301. Antennal segments (μ): I 47 (47), II 67 (37), III 80 (36), IV 72 (41), V 65 (40), VI 53 (36), VII + VIII 71 (33).

BRAZIL: Nova Teutonia, Santa Catarina, January 13, 1949, Fritz Plaumann, 3 ♀ ♀, from dry branches.

35. *Pygothrips longiceps* sp. nov.

Like *fortis* in color and long head, but with postocellar setæ minute; like *zeteki* in last character, but with tube much longer than wide.

Color nearly black, darker in head and last four or five abdominal segments; tube unicolorous, blackish brown; legs brown, with fore tarsi and tips of all femora yellowish; antennæ with segments III-VIII nearly black, extreme base of III, and all of I and II, yellowish shaded with brown; fore wings brownish gray, darker basally, with a post-median dark streak in middle, palest just in front of streak. Head 1.5 times as long as greatest width, cheeks almost straight and parallel; postocellar setæ minute; pronotum not thickened medially; fore tarsi strongly toothed; wings without accessory hairs; tube tapering to apical third, rounded to the constricted tip, with sharp setigerous tubercles. Length 2 mm. (distended, 2.33 mm.); head, total length 0.363, width across eyes 0.223, across cheeks 0.237, least width near base 0.223, length in front of eyes 0.020, width in front of eyes 0.098; eyes, dorsal length 0.089, width 0.066, interval 0.090; postocular setæ 0.134, interval 0.195, distance from eyes 0.034; prothorax, median length 0.130, width across coxæ 0.392, antero-marginal setæ 0.043, antero-angular 0.057, midlateral 0.047, epimeral 0.127, postero-marginal 0.100, coxal 0.075; mesothorax, width across anterior angles 0.392; metathorax, greatest width 0.406, abdomen (at segment V) 0.505; tube, length 0.267, subbasal width 0.182, apical width 0.041, terminal setæ 0.070; segment IX, seta I 0.371, II 0.368, III 0.314. Antennal segments (μ): I 50 (44), II 75 (37), III 89 (34), IV 78 (37), V 76 (37), VI 60 (32), VII + VIII 85 (30).

BRAZIL: Campo Grande, D. F., June 28, 1948, J. D. H., 1 ♀, from miscellaneous grasses in orange orchard on hill.

36. *Pygothrips callipygus* sp. nov.

Like *longiceps* in long head, short postocellar setæ, and long tube, but with the last bright orange, tipped with black, and with its numerous tubercles each bearing a pale seta about 50 μ long, the setæ bent abruptly backwards; third antennal segment yellow, shaded with brown apically.

Color blackish brown, darkest in head and abdominal segments VI-IX; legs about concolorous with body, all tarsi, fore tibiæ, bases and tips of middle and hind tibiæ, yellowish; antennæ pale yellowish brown in segment I, its apex and all of II yellow; III yellow, shading to brown at apex; IV-VIII dark brown, somewhat blackish, not paler basally, but IV slightly paler just beyond pedicel; fore wings brownish

gray, clouded apically, darkest basally, with a post-median dark streak in middle, palest just in front of streak. Head about 1.4 times as long as greatest width, which is across cheeks, the latter nearly straight, diverging to behind middle; eyes not attaining lateral margins of head, the re-entrant angle formed by cheeks curved forward well onto front of head; postocellar setæ minute; pronotum short, not thickened medially; fore tarsi strongly toothed; wings without accessory hairs; tube tapering somewhat roundly to constricted tip. Length 1.7 mm. (distended, 2.2 mm.); head, total length 0.269, width across eyes 0.167, width of head at eyes 0.180, greatest width across cheeks 0.190, least width near base 0.176, width across basal collar 0.185, length in front of eyes 0.022, width in front of eyes 0.083; eyes, dorsal length 0.072; postocular setæ 0.087, interval 0.120, distance from eyes 0.008; mouth-cone, length beyond posterior dorsal margin of head 0.130; prothorax, median length 0.113, width across coxæ 0.370, antero-marginal setæ 0.057, antero-angular 0.054, midlateral 0.065, epimeral 0.117, postero-marginal 0.078, coxal 0.050; mesothorax, width across anterior angles 0.357; metathorax, greatest width 0.367, abdomen (at segment V) 0.385; fore wings, length 0.847; tube, length 0.266, subbasal width 0.189, apical width 0.033, terminal setæ 0.041; segment IX, seta I 0.280, II 0.279, III (?) 0.252. Antennal segments (μ): I 43 (36), II 63 (35), III 72 (36), IV 70 (37), V 64 (36), VI 57 (32), VII + VIII 84 (30).

BRAZIL: Belém, Pará, August 5, 1951, J. D. H., 1 ♀, from dead branch of *Hevea*.

37. *Pygothrips fasciolatus* sp. nov.

Like *quadraticeps*, but with head as wide as long, tube much longer than wide, antennæ and legs with pale areas nearly white, and antennæ stouter, with their fourth to sixth segments subglobose and with abrupt pedicels.

Color dark blackish brown, abdomen darker apically, excepting tube, which is tipped with black and reddish subapically; legs brown, with apices of all femora nearly white; antennæ with segments III-VIII nearly black, I and extreme bases of II and III pale brown, remainder of II nearly white; fore wings brownish gray, somewhat darker basally and apically, with a post-median streak in middle, palest just in front of streak. Head equal in length to greatest width (across cheeks), the latter slightly rounded; postocellar setæ minute; pronotum not thickened medially; fore tarsi strongly toothed; wings without accessory hairs; tube 1.4 times as long as greatest width, somewhat narrowed basally, constricted at tip, remainder with sides nearly straight, set with sharp setigerous tubercles. Length 1.2 mm. (distended, 1.5 mm.); head, total length 0.162, width across eyes 0.151, across cheeks 0.162, least width near base 0.146, length in front of eyes 0.022, width in front of eyes 0.079; eyes, dorsal length 0.066, width 0.039, interval 0.073, ventral length 0.033, width 0.066, interval 0.085; postocular setæ 0.077, interval 0.120, distance from eyes 0.009; prothorax, median length 0.113, width across coxæ 0.301, antero-marginal setæ 0.005, antero-angular 0.005, midlateral 0.032, epimeral 0.098, postero-marginal 0.055, coxal 0.023; mesothorax, width across anterior angles 0.277; metathorax, greatest width 0.283, abdomen (at segment V) 0.322; tube, length 0.169,

subbasal width 0.119, apical width 0.025, terminal setæ 0.036; segment IX, seta I 0.191, II 0.210, III 0.171, stout setæ about $40 \mu \times 7 \mu$. Antennal segments (μ): I 35 (34), II 50 (33), III 51 (32), IV 45 (34), V 46 (32), VI 45 (30), VII + VIII 70 (26).

Male brachypterous, colored like female; fore legs and tarsal tooth enlarged.

BRAZIL: Jacarepaguá, D. F., May 14-June 22 (holotype on latter date), 1948, and Petrópolis, R. J., May 11, 1948, J.D.H., 11 ♀ ♂, 2 ♂ ♂, from dead branches, etc.

33. *Pygothrips quadraticeps* sp. nov.

From *fasciolatus*, the only other short-headed species of the genus which has the last two antennal segments similarly compactly united, the fourth with two sense-cones on either surface, the ninth abdominal segment with two strong setæ on each side between the three major ones, and the tube dark, this may be known at once by the somewhat longer head and by the coloration of the stouter antennæ.

Color nearly black, darker toward tip of abdomen; tube dark brown, darker basally, narrowly tipped with black; legs brown, with fore tarsi and tips of all femora yellow; antennæ with segments III-VIII nearly black, extreme base of III, all of I, and base and apex of II bright yellow, middle portion of II shaded with brown; fore wings brownish gray, darker basally and apically, with a post-median dark streak at middle, palest just in front of streak. Head slightly longer than wide, cheeks almost straight and parallel; postocellar setæ minute; pronotum not thickened medially; fore tarsi strongly toothed; wings without accessory hairs; tube with sides convexly arcuate and set with sharp setigerous tubercles. Length 1.7 mm. (distended, 2 mm.); head, total length 0.213, width across eyes 0.195, across cheeks 0.203, least width near base 0.190, width across basal collar 0.196, length in front of eyes 0.021, width in front of eyes 0.093; eyes, dorsal length 0.069, width ca. 0.058, interval ca. 0.080; postocular setæ 0.132, interval 0.143, distance from eyes 0.011; prothorax, median length 0.156, width across coxæ 0.414, antero-marginal setæ 0.008, antero-angular 0.071, midlateral 0.087, epimeral 0.160, postero-marginal 0.092, coxal 0.046; mesothorax, width across anterior angles 0.398, metathorax, greatest width 0.406, abdomen (at segment IV) 0.441; tube, length 0.217, subbasal width 0.203, apical width 0.039, terminal setæ 0.057; segment IX, seta I 0.308, II 0.322, III 0.294, intervening setæ 0.140 and 0.070, their diameter 0.008. Antennal segments (μ): I 47 (41), II 67 (36), III 75 (36), IV 68 (38), V 63 (36), VI 54 (32), VII + VIII 85 (30).

BRAZIL: Campo Grande, D. F., June 28, 1948, J.D.H., 1 ♀, from dead branch.

39. *OEdaleothrips brasiliensis* sp. nov.

Allied to *bicolor*, *graminis*, *œmulus*, and *amabilis* by the relatively flat metanotum and the relatively little-produced head, differing from all in the black, instead of yellow or yellowish, thorax.

Color black, with tergum I of abdomen and sides of II white, and with a pair of white spots at sides of V sometimes at sides of IV, also; trochanters and tarsi yellow, fore tibiæ brown apically, remainder of

legs black; antennæ black, with apical third of II and all of III yellow, or III clouded at basal fourth and apically, darkest at tip.

Head broadest across eyes, produced 21μ between eyes and bases of antennæ, this process with sides nearly straight and slightly converging anteriorly. Antennal segment IV without ventral tubercle at apex. Mesonotum subreticulate; metanotum roundly convex, not elevated to form a ridge or hump, subreticulate anteriorly, closely longitudinally striate posteriorly.

♀: Length 2.7 mm.; head, length 0.512, width across eyes 0.253, least width just behind eyes 0.238, greatest width across cheeks 0.245; prothorax, length 0.231, width across coxæ 0.406; tube, length 0.209, width at base 0.117, at apex 0.057. Antennal segments (μ): I 76 (52), II 82 (37), III 143 (41), IV 96 (43), V 99 (40), VI 90 (37), VII 60 (30), VIII 57 (19).

Male very similar to female. Nymphs with usual sclerotized areas yellowish, shaded with gray, darker between eyes and in abdominal segments IX and X; internal pigmentation lavender.

BRAZIL: Serra da Cantareira, Franco da Rocha, S. P., June 11, 1948, J. D. H., Frederick Lane, and Lauro Travassos Filho, 15 ♀♀, 15 ♂♂, 6 nymphs, from grass.

40. *Anactinothrips silvicola* sp. nov.

Like *meinerti* and *antennatus*, only, in having short midlateral prothoracic setæ and partially yellow intermediate antennal segments; unlike former in proportion of third antennal segment to fifth and unlike latter in that seventh is not produced at tip.

Color nearly black, tube paler distally, head darkest anteriorly; tarsi and articulations of legs brown; fore wings nearly colorless, narrowly margined with gray; antennæ with two basal and three apical segments dark; III yellow, infuscate subbasally and apically, palest subapically; IV darker, largely yellow, nearly black at extreme base, clouded with gray, especially apically; V brownish yellow, darkest at base and just before middle, brown apically; most setæ black, with pale tips. Length 4.5 mm. (distended, 5.6 mm.); head, total length 0.68, width across eyes 0.295, least width shortly behind eyes 0.279, greatest width at anterior seventh of cheeks 0.294, least width at anterior third 0.280, greatest width at posterior third 0.305, width in front of basal collar 0.267, width across basal collar 0.279, length in front of eyes 0.084, greatest width in front of eyes 0.150, least width 0.130; eyes, dorsal length 0.178, width 0.096, interval 0.102; postocular setæ 0.272, interval 0.073, distance from eyes 0.027; dorso-cephalic setæ 0.337, interval 0.090, distance from postoculars 0.147; ocellar setæ 0.091, interval 0.063; prothorax, median length 0.210, width across coxæ 0.589, antero-marginal setæ 0.059, antero-angular 0.034, midlateral 0.068, epimeral 0.217, postero-marginal 0.206, coxal 0.044; mesothorax, width across anterior angles 0.672; metathorax, greatest width 0.749; fore wings, length 2.0; abdomen, greatest width (at segment III) 0.862; tube, length 0.632, sub-basal width 0.144, apical width 0.076, terminal setæ 0.360; setæ on IX about 0.952. Antennal segments (μ): I 99 (71), II 99 (50), III 403 (50), IV 294 (55), V 238 (49), VI 178 (40), VII 116 (36), VIII 96 (24).

Male much like female in color and structure, but with fore legs often tremendously enlarged and with a long spike-like tarsal tooth, always with stridulating mechanism.

BRAZIL: Belém, Pará, August 8-19, 1951 (holotype and allotype August 9), J.D.H., 12 ♀ ♀, 17 ♂ ♂, from dead leaves of *Astrocaryum*, *Heliconia*, etc., in forests.

PALINOTHRIPS gen. nov.*

Close to *Ophthalmothrips* and *Fulgorothesis* (in which the head is produced and the eyes elongated ventrally), but with anterior margin of pronotum not thickened, fore tarsi of female not toothed, and fore wings with a prominent vein in basal half; vertex flat, not overhanging, with a pair of major setæ on either side of median ocellus; genal setæ strong. Type species: *Palinothrips palustris* sp. nov.

41. *Palinothrips palustris* sp. nov.

Black, tarsi and articulations of legs somewhat paler; antennæ with segment III bright yellow, black in apical fifth, IV and V brown in basal two-fifths, IV with a yellowish band just before middle, apex of each and remainder of antennæ black; fore wings yellowish, with a prominent dark median vein ending at middle. Length 4.6 mm. (distended, 5.6 mm.); head, total length 0.636, width across eyes 0.322, greatest width across cheeks (just behind eyes) 0.294, width at about anterior third of cheeks 0.280, width at about posterior third of cheeks 0.286, width just in front of basal collar 0.273, width across basal collar 0.283, length in front of eyes 0.129, lateral length of head process 0.085, greatest width of process (at eyes) 0.185, least anterior width 0.165, width near antennæ 0.169; eyes, dorsal length 0.168, width 0.088, interval 0.147; eyes, ventral length 0.234, width 0.116, interval 0.091; median ocellus, distance in front of eyes 0.053; postocular setæ 0.241, interval 0.182; ocellar setæ 0.211, interval 0.106; mouth-cone, length beyond posterior dorsal margin of head 0.188; prothorax, median length 0.277, width across coxæ 0.620, antero-marginal setæ 0.053, antero-angular 0.045, midlateral 0.120, epimeral 0.185, postero-marginal 0.253, coxal 0.100; mesothorax, width across anterior angles 0.661; metathorax, greatest width 0.683; abdomen, greatest width (at segment III) 0.729; tube, length 0.552, subbasal width 0.167, apical width 0.075, terminal setæ 0.469; segment IX, seta I 0.616, II 0.718, III 0.490. Antennal segments (μ): I 96 (75), II 101 (50), III 253 (46), IV 178 (46), V 151 (43), VI 126 (34), VII 92 (30), VIII 90 (22).

Male like female in color and general structure; fore femora with numerous short dark setæ, especially on outer surface; fore tarsi with tooth near base.

BRAZIL: São Carlos, S. P., June 21, 1950, D. P. de Souza Dias, 3 ♀ ♀, 6 ♂ ♂, from grass in marsh.

42. *Zeugmatothrips niger* sp. nov.

Allied to *badiicornis*, *annulipes*, *badiipes*, and *femoralis*, but readily known by the wholly black legs and antennæ.

**Palin*, again; *thrips*, a wood-worm—in allusion to the occurrence once more of prolonged eyes.

Head transversely striate dorsally, without neck-like groove across base and at sides; bases of postocular and dorso-cephalic setæ forming a trapezium, rather than an arc, the latter pair of setæ arising about midway between postoculars and base of head, both pairs dark brown, as are most of the major setæ of thorax and abdomen; genal setæ slender, inconspicuous, not arising from distinct tubercles. Antennæ dark blackish brown or black, segments IV-VI not at all yellow; III and IV each with a single large dorsal seta; III much longer than VI, VII, or VIII; IV with two sense-cones on outer surface. Prothorax with sutures between notum, epimeron, and episternum. Abdominal tergum I with one seta, only, at sides.

♀: Length 3 mm.; head, length 0.349, width across eyes 0.218, least width shortly behind eyes 0.202, greatest width across cheeks (just behind eyes) 0.206, least width near base 0.185; pronotum, median length 0.154, width across coxæ 0.381; tube, length 0.794, greatest width 0.110, apical width 0.045. Antennal segments (μ): I 70 (46), II 70 (38), III 117 (35), IV 134 (37), V 142 (36), VI 99 (32), VII 80 (28), VIII 67 (20).

Male very similar to female.

BRAZIL: Belém, Pará, Aug. 6-19, 1951, J. D. H. and J. Murça Pires, 10 ♀♀, 3 ♂♂, from dead leaves of assaí (*Euterpe oleracea*).

43. *Zeugmatothrips femoralis* sp. nov.

Allied to *badiicornis*, *annulipes*, *badiipes*, and *niger*, but readily known by the coloration of the fore and hind femora, the former pair white, the latter black.

Head transversely striate dorsally, without neck-like groove across base and at sides; bases of postocular and dorso-cephalic setæ forming a trapezium, rather than an arc, the latter pair of setæ arising about midway between postoculars and base of head, both pairs dark brown, as are most of the major setæ of thorax and abdomen; genal setæ slender, inconspicuous, not arising from distinct tubercles. Antennæ dark blackish brown or black, segments IV-VI not at all yellow; III and IV each with a single large dorsal seta; III much longer than VI, VII, or VIII; IV with two sense-cones on outer surface. Prothorax with sutures between notum, epimeron, and episternum. Abdominal tergum I with one seta, only, at sides.

♀: Length about 3.3 mm.; head, length 0.364, width across eyes 0.246, greatest width across cheeks (at posterior margin of eyes) 0.232, least width near base 0.195; pronotum, median length 0.164, width across coxæ 0.427; tube, length 0.903, greatest subbasal width (beyond base) 0.116, apical width 0.047. Antennal segments (μ): I 70 (54), II 66 (38), III 121 (35), IV 140 (39), V 154 (37), VI 109 (32), VII 84 (27), VIII 81 (21).

BRAZIL: Belém, Pará, July 23, 1951, J. D. H., 1 ♀, from dead branches or rubber trees (*Hevea brasiliensis*) lying on ground in shade.

44. *Zeugmatothrips mumbaca* sp. nov.

Readily known by the uniform dark color of body and legs, and the light yellow fourth to seventh antennal segments.

Head polygonally reticulate dorsally, with a neck-like groove across

base and at sides; bases of postocular and dorso-cephalic setæ forming a trapezium, rather than an arc, the latter pair of setæ arising much closer to postoculars than to base of head, both pairs brown at base and pale yellowish apically; three pairs of stout, dark, conspicuous genal setæ, arising from distinct tubercles. Antennæ with segment III yellow at base and apex, intervening portion shading from nearly black basally to yellow dappled with brown; IV-VII and base of VIII yellow; III and IV each with a single large dorsal seta; III shorter than IV or V, much longer than VI, VII, or VIII; I with two sense-cones on outer surface. Prothorax with sutures between notum, epimeron, and episternum; notum with a pair of major knobbed setæ between postero-marginals; mesonotum also with a pair of knobbed setæ. Abdominal tergum I with two pairs of large setæ at sides, III-VIII each with a pair of pores on subbasal line; tube widest at base.

♀: Length 3 mm.; head, length 0.326, width across eyes 0.242, greatest width across cheeks 0.251, least width at posterior angles of eyes 0.232, width near base 0.209, across basal collar 0.221; pronotum, length 0.196, width across coxæ 0.420; tube, length 0.595, greatest width 0.137, apical width 0.050. Antennal segments (μ): I 65 (52), II 67 (42), III 103 (40), IV 126 (42), V 127 (37), VI 83 (33), VII 56 (30), VIII 80 (19).

Male very similar to female.

BRAZIL: Belém, Pará, Aug. 8-18, 1951, J. D. H., 9 ♀♀, 7 ♂♂, almost exclusively from dead leaves of *Astrocaryum mumbaca* in a dense upland capoeira.

45. *Zeugmatothrips cinctus* sp. nov.

Allied to *borgmeieri*, *peltatus*, and *gracilis*, but with very stout antennæ, dark legs, and pale first abdominal segment.

Head polygonally reticulate dorsally, without neck-like groove across base and at sides; bases of postocular and dorso-cephalic setæ forming an arc, rather than a trapezium, the latter pair of setæ arising only 5-10 μ behind the former, both pairs dark brown, the major setæ of thorax and abdomen yellowish brown; genal setæ slender, pale, not arising from tubercles. Antennæ with segments III-VI yellow, III shaded with blackish brown in basal half exclusive of pedicel; III and IV each with two large dorsal setæ; IV with one sense-cone on either surface. Prothorax without sutures between notum, epimeron, and episternum. Abdomen with segments I and II much paler than III, thus forming a pale transverse band, II with a pair of median dark spots; median tergite of I hat-shaped, the median area forming the crown, the lateral posterior portions the brim; terga I, II, and III with 1, 1, and 2 pairs of major setæ, respectively.

♀: Length 2.2 mm.; head, length 0.253, width across eyes 0.186, greatest width across cheeks (close behind eyes) 0.181, least width near base 0.161; prothorax, median length 0.144, width across coxæ 0.319; tube, length 0.475, width near base 0.084, apical width 0.036. Antennal segments (μ): I 56 (42), II 55 (36), III 72 (32), IV 90 (33), V 100 (33), VI 67 (30), VII 49 (23), VIII 53 (13).

Male very similar to female.

BRAZIL: Belém, Pará, Aug. 9-19, 1951, J. D. H. and J. Murça

Pires, 16 ♀♀, 11 ♂♂, from dead leaves of several genera of palms and *Heliconia psittacorum*.

46. *Zeugmatothrips gracilis* sp. nov.

Allied to *cinctus*, *peltatus*, and *borgmeieri*, but differing from the first in having pale legs and the base of the abdomen dark; from the second in the form of the median tergite of the first abdominal segment; and from the last in the more slender head and antennæ, the stouter tube, and the presence of one and two stout setæ, respectively (instead of two and three), on abdominal terga II and III.

Head polygonally reticulate dorsally, without neck-like groove across base and at sides; bases of postocular and dorso-cephalic setæ forming an arc, rather than a trapezium, the latter pair of setæ arising about 8 μ behind the former, both pairs brown, as are the major setæ of thorax and abdomen; genal setæ slender, pale, not arising from tubercles. Antennæ with segments III-V yellow, VI yellow in pedicel, IV and V shaded in swollen apical portion; III and IV each with two large dorsal setæ; IV with one sense-cone on either surface. Prothorax without sutures between notum, epimeron, and episternum. Abdomen with median tergite of segment I hat-shaped, the median area forming the crown, the lateral portions the brim; terga I, II, and III with 1, 1, and 2 pairs of major setæ, respectively.

♀: Length 2.3 mm.; head, length 0.283, width across eyes 0.178, least width shortly behind eyes 0.158, greatest width across cheeks 0.163, least width near base 0.154; prothorax, length 0.146, width across coxæ 0.312; tube, length 0.609, greatest width 0.090, apical width 0.037. Antennal segments (μ): I 56 (43), II 59 (34), III 81 (31), IV 114 (29), V 124 (31), VI 86 (27), VII 53 (22), VIII 79 (19).

Male very similar to female.

BRAZIL: Belém, Pará, July 26, 1951, J.D.H., 3 ♀♀, 6 ♂♂, from cut grass.

SAUROTHRIPS gen. nov.*

Like *Zeuglothrips* in having three pairs of major cephalic setæ and in the disposition of enlarged setæ on the first two antennal segments; but with four or five pairs of short, stout genal setæ arising from tubercles; head markedly produced between eyes an antennæ; femora with rows of many setigerous tubercles; metanotal setæ not enlarged; fore wings without accessory hairs; abdomen elongated, slender, narrower than thorax, broadest basally, with a pair of prominent lateral tubercles on segments III-VII; tube very long, setose. Type species: *Sauorthrips assai* sp. nov.

47. *Sauorthrips assai* sp. nov.

Color nearly black, with trochanters, knees, and tarsi paler; antennæ nearly black, with bases of segments III-V and apex of VI yellowish, VII and basal three-fifths of VIII nearly white; wings light brown, slightly darker basally, with the median vein nearly black. Length about 5.9 mm. (fully distended, 6.7 mm.); head, total length 0.536, width

**Saurus*, a lizard; *thrips*, a wood-worm—in allusion to the form of the body.

across eyes 0.283, greatest width across cheeks (slightly behind eyes) 0.266, least width shortly behind eyes 0.252, least width just in front of basal collar 0.248, width across basal collar 0.258, length in front of eyes 0.119, lateral length in front of eyes 0.084, greatest width in front of eyes (near antennæ) 0.157, least width (near eyes) 0.140; eyes, dorsal length 0.138, width 0.059, interval 0.165; postocular setæ 0.168, interval 0.126; postocellars 0.144, interval 0.054; dorso-cephalics 0.104, interval 0.118, distance from eyes 0.051; mouth-cone, length beyond posterior dorsal margin of head 0.221; prothorax, median length 0.321, width across coxæ 0.574, exclusive of coxæ 0.420; antero-marginal setæ 0.046, antero-angular 0.077, midlateral 0.045, epimeral 0.114, postero-marginal 0.066, coxal 0.095; mesothorax, width across anterior angles 0.617, metathorax 0.630; fore wings, length 2.02, width near base 0.165, at middle 0.133, near apex 0.165; abdomen, greatest width (at segment II) 0.573; tube, length 1.52, subbasal width 0.123, apical width 0.058, terminal setæ 0.272; setæ on IX, I 0.165, II 0.084, III 0.160. Antennal segments (μ): I 95 (61), II 90 (55), III 156 (44), IV 144 (43), V 140 (43), VI 90 (39), VII 73 (33), VIII 89 (23).

Male very similar to female; fore tarsi with short tooth near base.

BRAZIL: Bélem, Pará, August 11-19, 1951, J. D. H. and J. Murça Pires, 11 ♀♀ and 9 ♂♂, from dead leaves of assai (*Euterpe oleracea*). The antennal coloration is unique.

CYPHOTHIRIPS gen. nov.*

Allied to *Actinothrips*, the major setæ arising from tubercles, head-process similarly broadened for reception of antennæ, the latter with one enlarged seta, only (on segment I), cheeks with two pairs of setigerous tubercles, fore wings with prominent median vein and accessory hairs; tube very long and slender, setose; but eyes flattened laterally and posterior facets enlarged, dorso-cephalic setæ about as large as postoculars, both arising from large tubercles, metanotum elevated in anterior half in both sexes, this hump in male forming a pair of diverging processes, each with two teeth at tip, the usual large metanotal setæ arising between the teeth. Type species: *Cyphothrips dorsalis* sp.

48. *Cyphothrips dorsalis* sp. nov.

Black, with trochanters, knees, and tarsi yellowish brown, antennæ entirely yellow in segments III-VII, segment VIII yellowish at base, II at apex; fore wings pale brown, somewhat yellowish, median vein nearly black. Length about 4.6 mm. (distended, 5.4 mm.); head, total length 0.524, width across eyes 0.302, least width at posterior angles of eyes 0.263, greatest width shortly behind eyes 0.267, least width (at about anterior third of cheeks) 0.244, greatest width across cheeks at about posterior third 0.267, least width just in front of basal collar 0.258, width across basal collar 0.270, length in front of eyes 0.091, lateral length of head-process 0.053, greatest width of head-process (near antennæ) 0.165, least width (near eyes) 0.137; eyes, dorsal length 0.113, width 0.082, interval 0.127; median ocellus, distance from anterior margin of eyes 0.013; postocular setæ, length 0.155, interval 0.137, dis-

**Kyphos*, hump-backed; *thrips*, a wood-worm—in allusion to the elevated metanotum.

tance from eyes 0.024; dorso-cephalic setæ, length 0.117, interval 0.098, distance from postoculars 0.040; mouth-cone, length beyond posterior dorsal margin of head 0.242; prothorax, median length 0.253, width across coxæ 0.560, exclusive of coxæ 0.434; antero-marginal setæ 0.075, antero-angular 0.110, midlateral 0.097, epimeral 0.135, postero-marginal 0.167, coxal 0.078; mesothorax, width across anterior angles 0.567; metathorax, greatest width 0.631; fore wings, length 1.82, greatest subbasal width 0.124, width near middle 0.116, near apex 0.140, subbasal setæ 0.059 and 0.139; metanotal setæ 0.211; abdomen, greatest width (at segment III) 0.721; tube, length 1.11, subbasal width 0.133, apical width 0.073, terminal setæ 0.252; setæ on IX, I 0.206, II 0.238, III 0.227. Antennal segments (μ): I 90 (69), II 89 (46), III 333 (53), IV 241 (54), V 231 (51), VI 176 (43), VII 125 (36), VIII 104 (26), total 1.39 mm.

Male very much like female; metanotal processes 0.098 mm., setæ 0.161 mm.

BRAZIL: Belém, Pará, August 11-19, 1951, J. D. H., 5 ♀♀, 2 ♂♂, from dead leaves of assaí (*Euterpe oleracea*).

SMICROTHRIPS gen. nov.*

Closely allied to *Preeriella* and *Hydiiothrips*; antennæ 7-segmented, as in the latter genus, but with segments III and IV separate as in the former one, the reduction in number brought about by the union of the morphological sixth and seventh; postocellar setæ minute, postoculars large; prothorax with only three pairs of major setæ (exclusive of coxals), the antero-marginals and midlaterals** very minute. Type species: *Smicrothrips particula* sp. nov.

49. *Smicrothrips particula* sp. nov.

Very pale, only slightly yellowish, fore wings pale gray, antennæ lightly shaded beyond middle of penultimate segment. Length about 0.9 mm. (fully distended, 1.0 mm.); head, total median length 0.083, width across eyes 0.049, across cheeks 0.041, length in front of eyes 0.012, distance between eyes and antennæ 0.004; postocular setæ 0.033, interval 0.020; mouth-cone, length beyond posterior dorsal margin of head 0.034; prothorax, median length 0.070, width across coxæ 0.099, exclusive of coxæ 0.082; antero-angular setæ 0.036, epimeral 0.028, postero-marginal 0.029, coxal 0.037; metathorax, greatest width 0.091; abdomen, greatest width (at segment V) 0.100; tube, length 0.042, greatest width 0.030, apical width 0.019; setæ on segment IX, I 0.033, II 0.034, III 0.033; terminal setæ 0.060. Antennal segments

**Smikros* = *mikros*, little or small; *thrips*, a wood-worm—in allusion to the extremely minute size of the type species.

**This nomenclature of the prothoracic setæ is open to question. In *Preeriella* the two anterior pairs lie close together near the fore margin of the pronotum, and the outer pair are almost certainly the antero-angulars and the inner the antero-marginals; and this primitive condition is reflected in the presence of eight segments in the antennæ. In *Hydiiothrips*, which is apparently more specialized and which has only seven antennal segments, the inner pair, which would appear to be the antero-marginals, have seemingly become shifted almost into the midlateral position. In *Smicrothrips* one of these two pairs is either missing or minute. This is presumably the antero-marginal pair, but the homologies are obscure.

(μ): I 15 (17), II 24 (19), III 11 (16), IV 23 (22), V 19 (14), VI 31 (14), VII 14 (6).

BRAZIL: Nova Teutonia, Santa Catarina, Feb. 17, 1949, Fritz Plaumann, ♀ ♀, from *Lantana*.

50. *Hyidiotrips tessellatus* sp. nov.

Differing conspicuously from its congener by the longer, strongly polygonally reticulate head.

Color brown, with red internal pigmentation; antennæ light gray in segments I and II, shading to dark gray-brown in IV-VII; dorsal surface of head with heavy, elevated, nearly black lines of sculpture marking off large polygons; metanotum with an acute median production; setæ formed as in type of genus. Length 0.79 mm.; head, length 0.094, width across eyes 0.068, across cheeks 0.067, least width near base 0.062, length in front of eyes 0.019, greatest width in front of eyes 0.039, distance between eyes and antennæ 0.009; eyes, dorsal length 0.043; postocular setæ, length (chord of arc) 0.043, interval 0.056, distance from eyes 0.007; postocellar setæ, length 0.016, interval 0.014; mouth-cone, length beyond posterior dorsal margin of head 0.036; prothorax, median length of pronotum 0.068, width (inclusive of coxæ) 0.136, exclusive of coxæ 0.108; antero-marginal setæ* 0.044, antero-angulars 0.049, epimerals 0.044, postero-marginals 0.052, coxals 0.042; mesothorax, greatest width 0.116, metathorax 0.124; fore wings, length 0.454, subbasal width (exclusive of scale) 0.030, least width (at basal third) 0.010, greatest subapical width 0.017, subbasal setæ 0.038, 0.039, 0.039; abdomen, greatest width (at segment V) 0.113; tube, length 0.044, greatest subbasal width 0.032, apical width 0.018; setæ on IX 0.067, 0.068, 0.050; terminal setæ 0.080. Antennal segments (μ): I 16 (18), II 24 (21), III 42 (27), IV 24 (20), V 28 (15), VI 15 (7), VII 20 (5).

BRAZIL: Nova Teutonia, Santa Catarina, May 25, 1949, Fritz Plaumann, 3 ♀ ♀, from *Solanum*.

*See footnote under *Smicothrips* gen. nov.

